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ABSTRACT The Materials and Activities for Teachers and Children (MATCH Box) project provides for a two-week intensive treatment of a subject on the elementary school level. Each MATCH Box contains materials, equipment and activities that work together to foster the teaching/learning of the particular subject matter. PADDLE-TO-THE-SEA is a social studies unit based on the story "Paddle-to-the-Sea", by Holling C. Holling. It is the story of a small wooden canoe carved by a Canadian Indian Boy and launched by him on its way to the Atlantic Ocean. In tracing Paddle's journey the children see films and filmstrips, make collages and large geographical models, and handle Indian implements, fishing and mining tools, and samples of mine ores. While doing this they learn about the waterways of Northeastern America, and about the cities, industries and ethnic groups which live on or near them. The economics of bartering are realized through role-playing Chippewa, Huron, and French transactions. The children have an opportunity to discuss dreams and Indians, logging camps and belief systems, and, at the end of the unit, are given the opportunity to make their own "voyageur" and launch it on its way to the sea. (SH)							



Paddle- to-the-Sea



THE MATCH BOX PROJECT

Materials and Activities for Teachers and CHildren



A TEACHER'S GUIDE TO

Paddle·to·the·Sea

GRADES 4, 5, 6

BY BUZ BEVER
FRED KRESSE

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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CONTENTS

ONCE UPON A TIME

PORTS OF CALL

GEAR

BON VOYAGE

INSTALLMENT ONE
INSTALLMENT TWO
INSTALLMENT THREE
INSTALLMENT FOUR
INSTALLMENT FIVE
INSTALLMENT SIX
INSTALLMENT SEVEN
INSTALLMENT EIGHT
INSTALLMENT NINE
INSTALLMENT TEN

DREAMS
LOGS
COLLAGE
LONG SHIPS
BREECHES BUOY
CAPT. INCHES
CASTAWAYS
PEOPLE
BEADS AND BEAVERS
THE SEA AND BEYOND

BOOKS AND SUCH

THANKS

ABOUT THE MATCH BOX PROJECT



ONCE UPON A TIME ...

Reading or telling a story is a good way to take children out into the world. They are perpetually ready and willing to go. When you ask, "Would you like to hear a story?" the answer always comes back a strong "Yes", and almost right away, there is a gathering around.

This MATCH Box has at its heart a good story.

"Paddle-to-the-Sea? I remember that. Holling C. Holling, right?"

"It's about an Indian that travels through the Great Lakes, isn't it? Gets caught in a sawmill doesn't he? Yeah, I remember."

"You know, my daughter is probably old enough to enjoy that book, now."

"I really loved Paddle. He seemed very real to me, and I loved finding out the little things you found out along the way."

Because he loved the book, Bill Mason spent four years planning and filming the story. He said he wanted to personally experience Paddle's adventures, and making the film was the best way he could do it. The Indian boy that carved Paddle had an idea like that, too.

No one can know the many meanings this story holds for people, or how many there will yet be.

Our reason for making this Box is to bring the story of "Paddle-to-the-Sea" to more children, so they can know it, wonder and dream about it, and explore its reaches - Indians, canoes, wood carving, lakes, shipwrecks, Niagara, lumber mills, songs, Canada.

The Box is divided into 10 Installments, each with special activities that follow out some aspect of the story in much the same way as a leisurely trip allows time for back roads and hidden places.

ONCE UPON A TIME...



Your role is to read the story and lead the expedition. You don't have to be an experienced story reader, but if this concerns you, rehearse ahead of time. By reading out loud to yourself, you'll find the pauses and the right expressions.

We hope you have a good time with this Box, and that years from now, you and the children can look back and remember the journey you took together with "Paddle-to-the-Sea".

PORTS OF CALL



An Outline for "Paddle-to-the-Sea"

This Box is designed for use over a three week period and is divided into ten Installments. Except for one, where the children meet a Great Lakes Captain, each installment consists of reading the story and having the children do some related activity. Some of the activities may require two class periods. One, which involves making a huge Great Lakes Collage, begins early in the unit and continues throughout. (In other words, the three weeks will be full ones). At the end of this section there is a plan for scheduling the installments.

A filmstrip of the book illustrations is shown whenever you are reading to the class.

INSTALLMENT ONE - DREAMS

The story begins. You read the first three chapters, while showing the filmstrip so the class can "look at the pictures" as you read. After finding out how Paddle came to be and how his journey began, the children get to see a real carving of Paddle and examine one of the tools the boy used to make him. There is a discussion of dreams and where they lead us.

INSTALLMENT TWO - LOGS

A deer antler and a beaver-cut log are used as clues to what happens in Chapter 4. The film "River of Wood" is used as a clue and mood piece for the next three chapters. The lesson speaks of logs, rivers and men.

INSTALLMENT THREE - COLLAGE

Paddle reaches Lake Superior and is washed into a marsh. The children begin work on a huge, 4' by 8' map of the Great Lakes and the St. Lawrence. They plot Paddle's journey and start to cover the map with pictures, objects, names, dates, etc. -

anything that expresses the meanings that the story and the region hold for them. Each day more things are added until the map is transformed into a Collage that traces their own journey to the Sea.

INSTALLMENT FOUR - LONG SHIPS

Paddle reaches Duluth and begins heading East along the great shipping routes. The children examine samples of iron ore, copper, wheat, and coal and then see a film about the enormous ships that carry these things across the Lakes. Outside the school they find out just how big one of these ships is by forming its outline - 730 feet long.

INSTALLMENT FIVE - BREECHES BUOY

Paddle witnesses a shipwreck and rescue using a breeches buoy. He is found, repaired, and given a long lift, first by dog sled to Sault Ste. Marie, then by freighter to Gary. The children assemble a breeches buoy, they use a "mileage wheel" to calculate how far Paddle has traveled, and they learn how a lock works through operating a model.

INSTALLMENT SIX - CAPT. INCHES

A special installment in which the children listen to a conversation with Captain H. C. Inches, for 30 years Master of Ships on the Great Lakes.

INSTALLMENT SEVEN - CASTAWAYS

Again and again Paddle is stranded on the beach among heaps of castaways as he is slowly carried northward through Lake Michigan. The children examine some things cast up on other shores, whose journeys they try to imagine and write about.



INSTALLMENT EIGHT - PEOPLE

Paddle skitters across the ice on Lake Huron, and is found by a little girl. A museum man offers to buy him from her father, who says "No" and sends Paddle on into Lake Erie. Paddle meets many more people who decide to help him on his way rather than keep him. Through role-playing, the children re-create these situations to understand why the people did this.

INSTALLMENT NINE - BEADS AND BEAVERS

Paddle reaches Montreal, historic gateway to the trading centers of the Northwest. The children divide up into Chippewas, Hurons, and Frenchmen and barter with each other over beads and beavers, tomahawks and trade cloth, cooking pots and corn.

INSTALLMENT TEN - THE SEA AND BEYOND

Paddle reaches the Sea. A young Indian learns that the canoe he carved more than four years ago got all the way to France. The story ends and there is time to talk and wonder about it. And plans are made too, for the class to make and launch its own voyagers.

Finally there is a promise: If the children need help, they can have their voyagers launched for them out in the Atlantic.

* * * * *

PORTS OF CALL

Planning the Unit

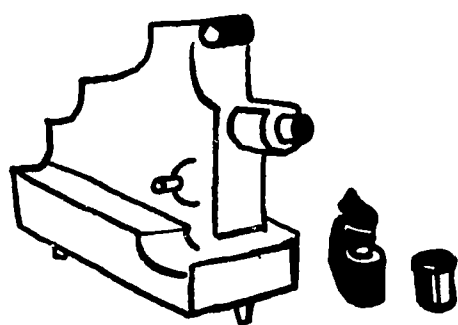
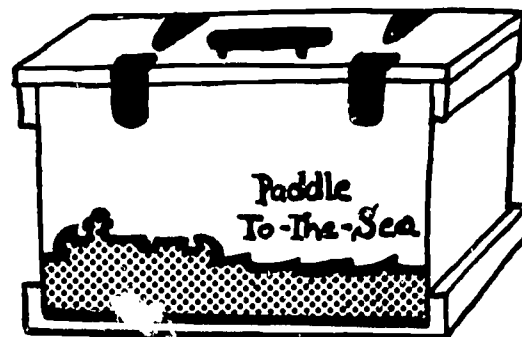
This diagram shows how the ten installments can be distributed over fifteen class periods of about one hour each. There are two open days.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ONE	■														
TWO		■													
THREE			■	■	■	■	■	■	■	■	■	■	■	■	■
FOUR					■										
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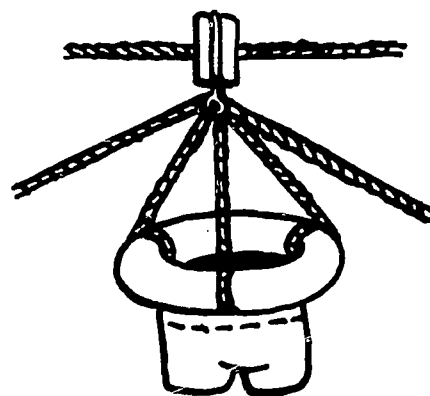
A 16mm projector is needed for Installments Two and Four

A Sheet of Homosote offers a good mounting surface for the Collage, and you may want to arrange for that now. See Installment Three for the cost and virtues of this material.

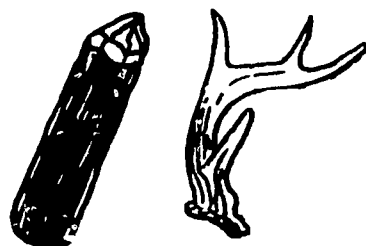
Film, Paddle-to-the-Sea: At the end of the Box you may want to show the Canadian Film Board's "Paddle-to-the-Sea, in which case you should order early. For information see Installment Ten. The film is beautiful. It does not present the story in the same way or in the same detail as the book, but it captures its spirit. The images tell things which neither the book nor this Box can express.



2 filmstrips
and projector

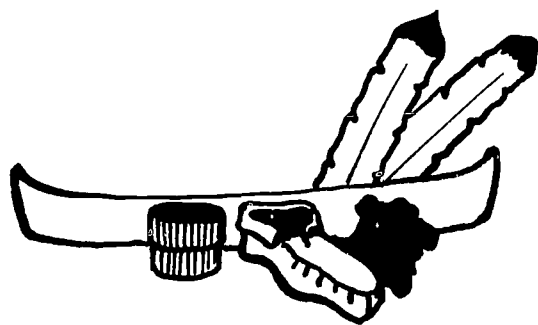
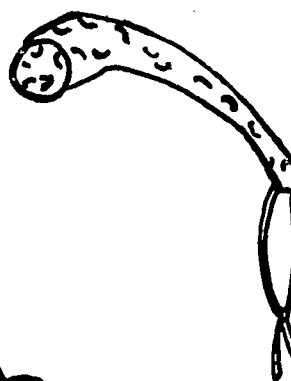


breeches buoy



antler
beaver log

Chippewa club



model canoe
mocassins
quill box
mini-pelts
feathers

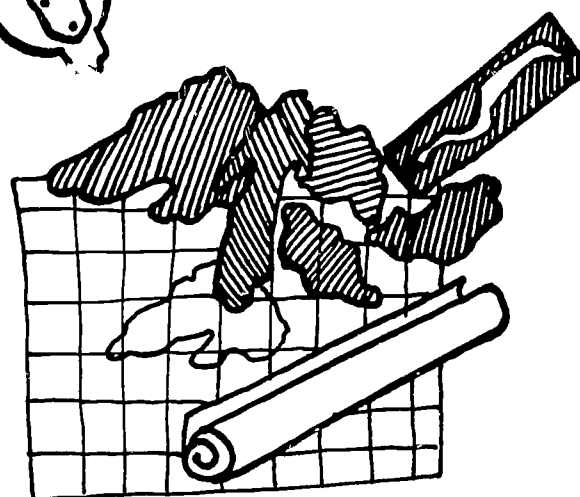


mileage wheel

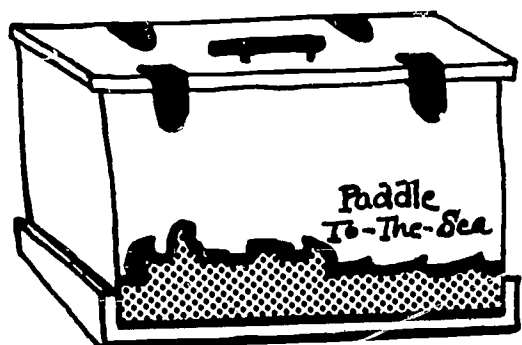


lock model

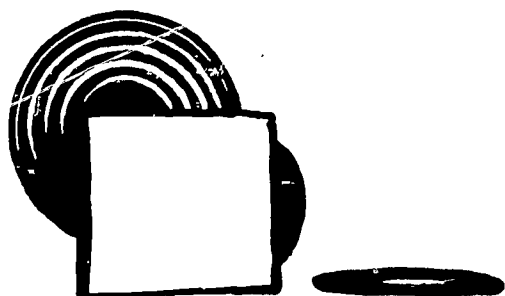
Lake templates
and charts



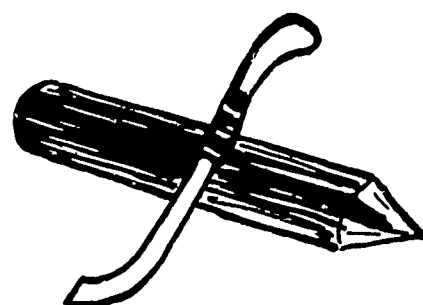
GEAR



Paddle



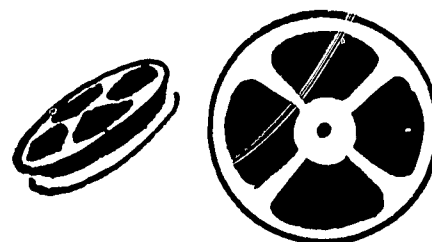
records:
Voyageur's Songs
Captain Inches
North Woods sounds



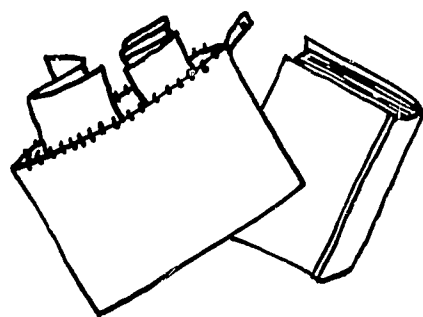
crooked knife
pine log



3 copies Paddle
to-the-Sea

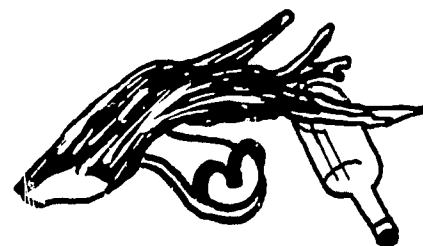


Films on logging
and ships



pamphlets and book

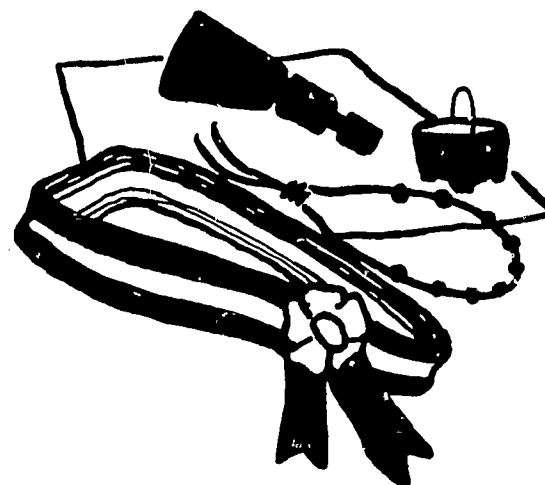
castaways



birchbark basket
beaver skin
corn
necklaces
mini-pelts

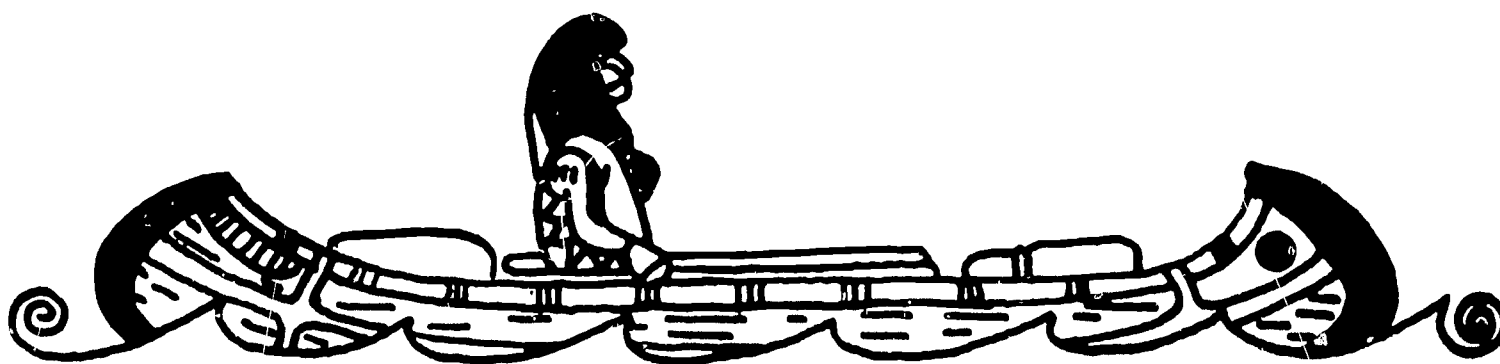


trade goods:
cloth, beads,
kettle, ,
tomahawk
kettle, sashes





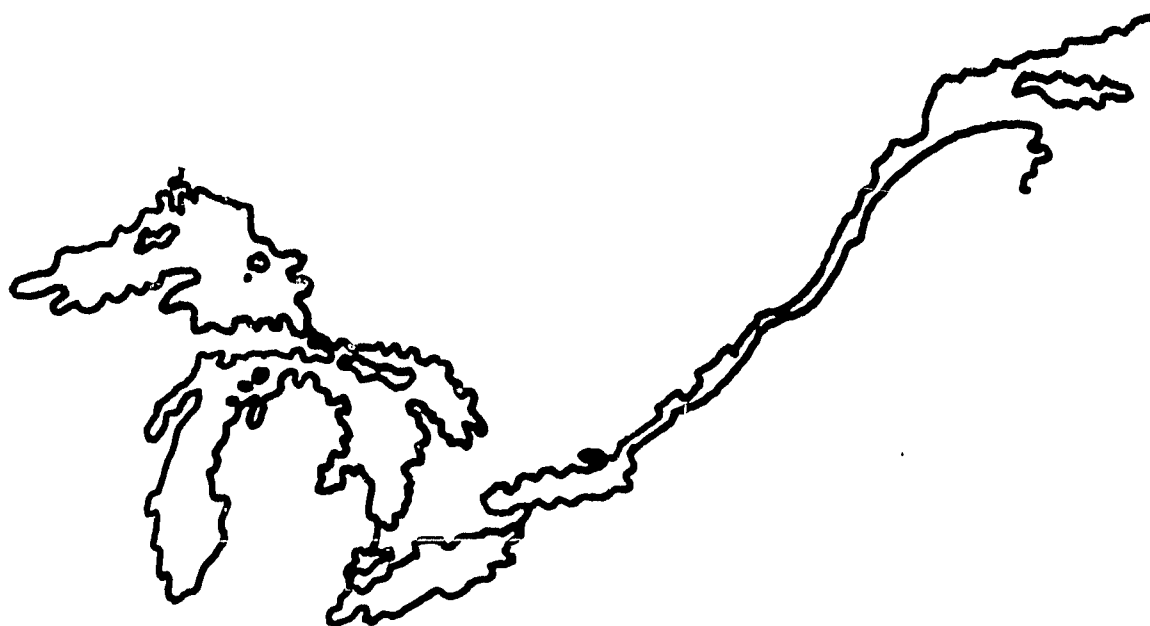
BON VOYAGE



Installment One

1. HOW PADDLE-TO-THE-SEA CAME TO BE
2. LONG RIVER REACHING TO THE SEA
3. PADDLE STARTS ON HIS JOURNEY

The story begins. You read the first three chapters, while showing the filmstrip so the class can "look at the pictures" as you read. After finding out how Paddle came to be and how his journey began, the children get to see a real carving of Paddle and examine one of the tools the boy used to make him. There is a discussion of dreams and where they lead us.





Things you'll need:

Teacher's copy of Paddle-to-the-Sea
Filmstrip of illustrations from Paddle-to-the-Sea
Filmstrip projector and extension cord
Carved model of "Paddle-to-the-Sea"
Pine block
Crooked knife

At the outset, have the filmstrip projector and screen set up in a good spot where you can be near the children and where they can see. In a room with fixed desks, put the projector on a desk about 15 to 20 feet from the screen and seat the children in front of you and around both sides.

* * * * *

The journey begins.

Gather the children around you. If there is room to do it physically - good. If not, gather them with your voice.

Now darken the room and begin with the filmstrip. Show the first two frames, then hold, on the title page of the book. Say a word about what you are going to do, explain that the pictures are from the book, and invite everyone to enjoy the story.

Show Frame 1 and start reading. Read the first three chapters of the book, and as you read show the filmstrip. The filmstrip is meant to draw the children in to you, to make each one feel that he is at your side while you are reading to him.

We have marked your copy of "Paddle" to show where to advance the filmstrip. Vary this if you wish, but please do not go ahead of the story.

Filmstrip: The frames are numbered to coincide with the chapter numbers. Frames 1, 2, 3...are the main, color

DREAMS



illustrations for Chapters 1, 2, 3. Frames 1b, 2a, 5a, etc. denote margin illustrations in Chapters 1, 2, 5 etc. - the letters designating the illustrations in counter-clockwise order from the top of the page.

After the reading, keep the room dark and let the children talk about the story among themselves and with you. Show some of the pictures again if that seems appropriate.

Then, while the magic of the mood still lingers, bring out the carved model of "Paddle-to-the-Sea," the crooked knife and a pine block like the one the boy used to make Paddle. Allow these things to pass among the children and listen for their questions and comments. They may wonder whether this is the "real" Paddle. Don't tell them that it is, but try to find out what they think. They may want to think of it as the real one even though they know that it isn't. And yet, was there ever one more real than this?

Model: This Paddle and eight others were carved out of pine by Allan Conrad, in the summer of 1967. Each one took about nine hours to carve. Buz Bever did all the hand painting.

Crooked knife: Two knives are shown in Chapter 1 - a common hunting knife which the boy probably used for detail work and a crooked knife used to rough out the carving. The curved knife blade came from the Hudson's Bay Co. which has been trading such blades to the Indians for more than 300 years. This knife is one of the basic tools used to make birch bark canoes. The Indians called this knife "mocotaugen."

For a while, follow the children to wherever their questions and speculations lead. Then, if it hasn't already come up, ask them why the boy made "Paddle" and what the little Indian meant to him.

Bring the children to thinking and talking about dreams and what they mean to people.

Dreams: The book says a lot about dreams. Indians placed great emphasis on them, believing dreams to be clearer views of life than one can normally attain. Dreams often set the course of their lives; their names came from dreams. Through

DREAMS



fasting, the Indians would induce dreams to guide them. For us, too, dreams serve as guides. The dreamer - though we may not understand him - has a direction, a force within him that organizes his actions, makes them meaningful, and gives them a strange inevitability. Try in this lesson, and the others, to set the children to dreaming.

Finally, tell about the next few weeks - how every day or so you will read further on in the story and how with each reading there will be some special things for the class to do.

* * * * *

The Idea: Obviously, this lesson gets you started by introducing the unit. It should also set the style for the entire unit and establish you as the story teller. The darkened room, the pictures, the way that you read - all are meant to focus attention and make the story more vivid.

* * * * *

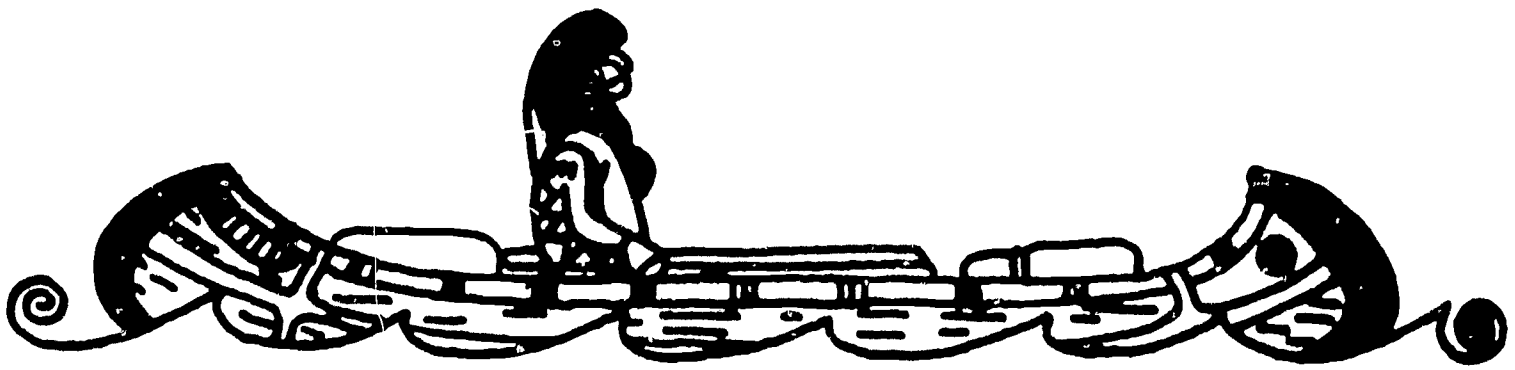
McKee's book, Great Lakes Country, conveys the fabulous history and character of the Great Lakes region. We have included it for your enjoyment.

From the Pamphlet Pouch:

The Canadian Geographical Journal contains an article on how birch bark canoes are made, and shows the crooked knife in use.

Indians of the Great Lakes Area is a good general work.

Tomorrow you'll need a 16 mm projector.



Installment Two

4. BROOK AND BEAVER POND
5. BREAKUP OF THE RIVER
6. PADDLE MEETS A SAWMILL
7. PADDLE MEETS A FRIEND

A deer antler and a beaver-cut log are used as clues to what happens in Chapter 4. The film "River of Wood" is used as a clue and mood piece for the next three chapters. The lesson speaks of logs, rivers and men.





Things you'll need:

Antler

Beaver cut log

Film: River of Wood 17 min. B&W

"Paddle" filmstrip and projector (The projector is used in every installment and should be kept handy. We will not keep listing it)

Please arrange for a 16 mm projector, have it set up and threaded ahead of time. Try to get the projector for at least two days, or better yet, for 4 days in anticipation of Installment Four.

* * * * *

Do not start by reading. Instead, pass the antler and the beaver cut log around for the children to examine. Explain that these things are found in the next chapter and invite the children to imagine from these clues what's going to happen. Work their speculations. If there is uncertainty about what the objects are, let it remain to be resolved by the story.

As interest subsides, darken the room, show Frame 4 and read Chapter 4.

Allow for some talk about how the predictions compared to the story. Then go on to explain that a film - rather than real objects - is going to serve as a clue to the next three chapters.

With the room still dark, show River of Wood. Again, following the film, set the children to spinning ideas about what Paddle's next adventure might be. It's not important that they be correct. In fact, it's quite unlikely that they will be, since the film ties into the story only loosely.

River of Wood: We chose this film for its spirit and the honest way it shows men and logs on the river. Having seen it, we think the children will understand what dangers Paddle encountered in the river - how easily he might have been smashed.



And while Paddle is carried to a sawmill rather than a paper-mill, the logs and the river and the men are probably just the same.

Read Chapters 5, 6 and 7 showing Frames 5a through 7b. After that, you should be able to get a great discussion going about what the children thought was going to happen. Then there will be logs and sawmills and the breakup of the river to talk about. And what about the lumberjack that rescued Paddle - what do the children think about him?

Discussions: You'll find that we are great ones for talking things over. After something interesting has happened it's fun to round up ideas. Of course it can be overdone, and many an idea has been "discussed" before it was ever had. You just have to feel your way.

The kid who knows the story already: Some children are bound to be acquainted with the story and may give things away. If you have such children, recognize their knowledge, but try to keep them from "sharing" it prematurely.

If the children are interested, show the film again. A second look will consolidate things, and besides, the songs are so great.

* * * * *

The Idea: The thought behind the structure of this lesson is that the children will get more out of the individual elements and the lesson as a whole than they would with a more traditional approach.

The log and antler and film can first of all be experienced for what they are. Then, when these elements occur in the story, the children already know something about them. The story becomes more real because the children recognize things in it which they have personally experienced. In the process, the objects, too, acquire new meanings.



Too often we "teach" the other way around. We first describe an experience to the child and then let him have it - the Demonstration. This makes many experiences hand-me-down things and destroys the joy of recognition. If this happens often, the child turns off and says "I see" instead of "I see!"

* * * * *

McKee has a wonderful section in Chapter 11 about logging in the old days, long before Paddle and even longer before the modern, civic-minded "tree farmers." It must have been something! See what the children think of the picture on page 172.

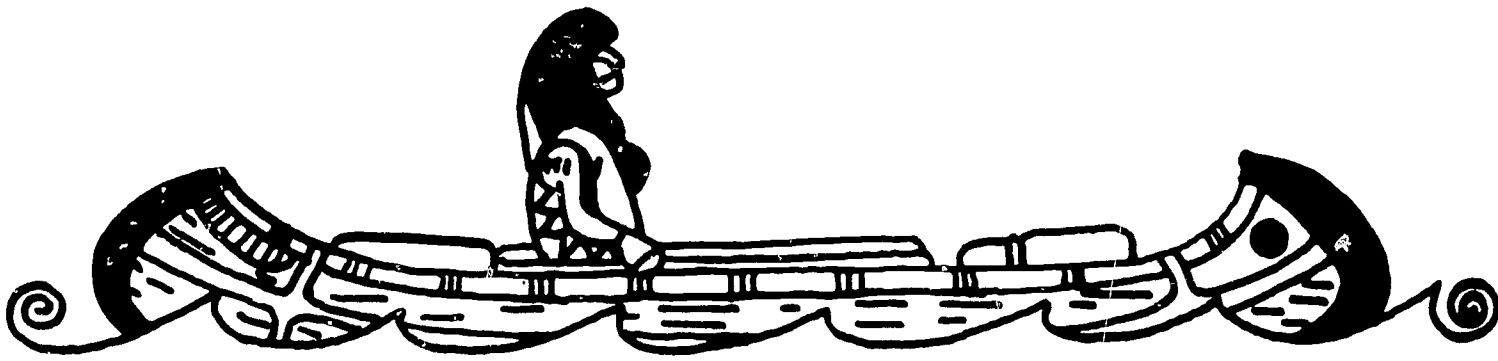
Other films: There are a number of films that deal with logging and sawmill operations. Some have excellent sawmill sequences showing the bull chain, gang saws in operation, and huge logs being "peeled" to make plywood. Most include rather strong "messages."

From the Pamphlet Pouch:

"The Trees and the Forests"

"Careers in the Logging Industry"

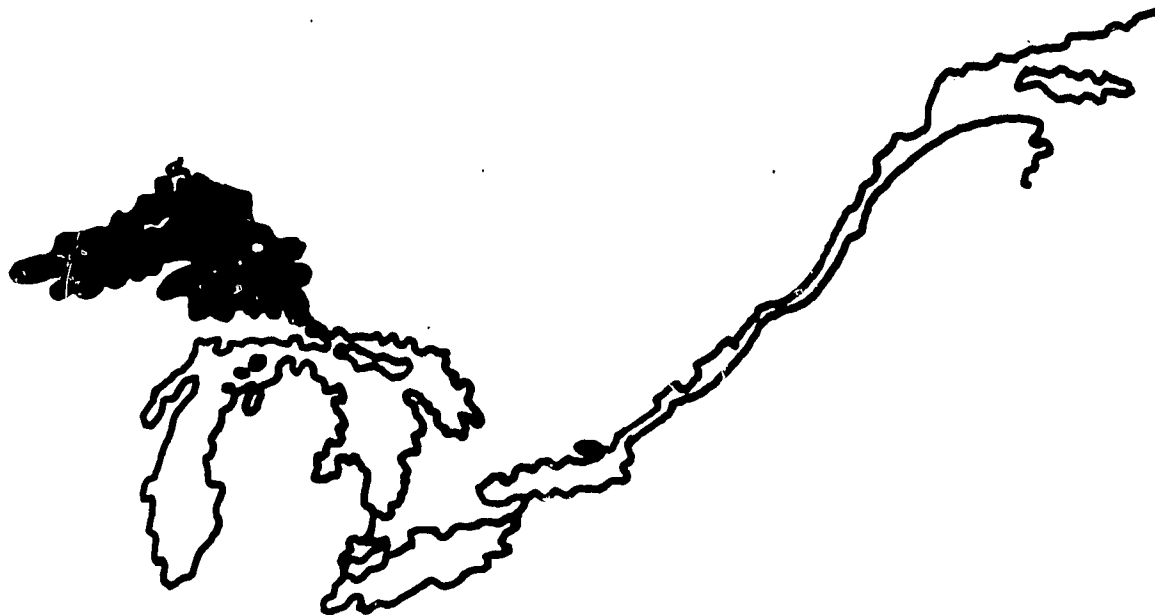
Tomorrow you will need a record player, and space and material to set up a large map project.



Installment Three

- 8. THE LARGEST LAKE IN THE WORLD
- 9. PADDLE CROSSES TWO BORDERS
- 10. LIFE IN A NORTHERN MARSH

Paddle reaches Lake Superior and is washed into a marsh. The children begin work on a huge, 4 by 8 foot map of the Great Lakes and the St. Lawrence. They plot Paddle's journey and start to cover the map with pictures, objects, names, dates, etc. - anything that expresses the meanings that the story and the region hold for them. Each day more things are added until the map is transformed into a collage that traces their own journey to the sea.



COLLAGE

Things you'll need:

General chart of the Great Lakes
Lake and River patterns
5 Great Lakes (templates)
lower St. Lawrence (template)
upper St. Lawrence and Lake St. Clair (stencil)
2 class copies of Paddle-to-the-Sea
2 records:
Voices of the North Woods, 45 rpm
The Voyageurs and their Songs, 33 rpm

In the classroom you will need a 4 x 8 foot area either on the floor or wall or on a separate panel for a huge Great Lakes collage.

You will also need a record player.

Note: This installment covers two days.

* * * * *

Read Chapters 8, 9 and 10 and show Frames 8-10

Then explain the idea of the Collage and set the children to work on it.

Mounting the Collage: The Collage can be set up in a number of workable ways, each with its own characteristics. Generally speaking a 4'x8' sheet of homosote resting on fruit boxes or on the floor would be best. The children can work around all sides of it; it readily takes paint, tacks, tape, nails, and staples, etc; things can be built up on it; and it can easily be moved.

A sheet of homosote costs about \$5.00. If your school system can't or won't supply it, maybe the lumber company will make a small contribution to education. If you wind up buying it yourself don't feel bad; it's great material. You can use it



over and over again during the year, and never have to worry about "unsightly" holes in the woodwork which seem a concern to many school systems.

A big sheet of heavy cardboard (from a refrigerator carton), or a piece of plywood on the floor or on a table would be good. Brown paper on the floor would work.

Vertical surfaces are tougher. Instead of pulling for you, gravity limits the things you can attach or turns the process into an engineering feat. Walls and such are hard to reach, too.

The tackboard - if you have one big enough - would be better than the blackboard or a wall. And if brown paper is used, make sure it's secure to prevent it from tearing when the Collage begins to get loaded.

Though we've made our biases rather clear, remember that the children will do imaginative things with the Collage no matter how it's mounted.

In organizing the work have different groups do different things:

Lay out the waterways: The first thing to do is to lay out the Lakes and rivers. There are Lake and River templates as well as cutouts of the upper St. Lawrence and Lake St. Clair which can be traced to give the shape of these waterways. But positioning them on the map surface and getting them into proper relation is the crucial task. To do this the group will need the general chart of the Lakes. After discovering that the lines scored on the templates are the lines of latitude and longitude shown on the chart, the group will be on its way.

Make sure everything looks about right before the Lakes are drawn in finally. The St. Marys, St. Clair, Detroit, and Niagara Rivers can be drawn in free-hand.

Template Scale: The Lake templates were derived from the chart, and are 1 and 2/3 its size. The approximate scale of the Lakes - and hence the whole map is 15 statute miles per inch.

Coloring the water and plotting Paddle's journey: Have the children cut the Lakes and rivers out of blue paper (again using the templates) and paste them onto the map. The next step is to add the other waterways. Paddle's path, which is to be extended with each installment, should be drawn in neatly and clearly.

Geography of the land should be the responsibility of another group. They can draw in places mentioned in the story and other elements such as state and provincial borders, cities and towns, etc.

Adventure cards are small drawings (about 3" x 5" or smaller) depicting Paddle's adventures. They can be events that happened to Paddle, things he saw, people or animals that he met, etc. There are a lot of possibilities for such miniatures. Attach them near where the adventure took place, with a string or line connecting to the exact location. (String can readily be moved if things have to be rearranged later on.)

Establishing the Collage is very important. There is a lot that can be done with it, and it's important for the children to see its potential. Remember, though, that everything doesn't have to be done at once. This, in fact, would defeat the idea of making something grow.


The Collage can be added to in regular sessions or in free time. All contributions are welcome, but if there are many, they should be small or be put on top of each other.

There is a list of ideas for things that can go on the Collage at the end of this Installment.

* * * * *

Backgrounds

End the first period by playing Voices of the North Woods, a record of sounds that Paddle might have heard in the marsh or on the rim of Lake Superior.



The Voyageurs and Their Songs is a good record to play while the children are at work on the Collage (or any time for that matter). These are songs Paddle might have heard had he been on Lake Superior one or two hundred years earlier; particularly if he had drifted near Grand Portage.

The two class copies of "Paddle" can be brought out now to allow the children to re-read the story, examine the illustrations, and just see what the book is like.

If some children want to read ahead - fine. They might get more out of the unit that way. But keep this a matter of individual choice, and responsibility. The children who prefer listening to the story shouldn't have the fun taken out of it, nor should they feel pressured into reading ahead. Don't let one of those ghastly "competitions" arise. Play it so the children will respect each other's way of approaching things.

* * * * *

The Idea: The Collage does a number of things. It offers a way of keeping track of Paddle's journey and of the unit as a whole. It focuses class effort and gives the children a sense of involvement in what's going on in their room. You'll see this when a child puts a star somewhere in Michigan where his grandmother lives.

By superimposing and intermingling all kinds of subjects (geography, industry, history, exploration, trade) in an array of forms (words, objects, symbols, colors, pictures) the Collage models the real world as we and the children encounter it; it reflects the complexity and also the richness. The more thickly the children encrust it with honest and understood things, the more Paddle's journey and the Great Lakes will mean to them.

* * * * *



Things to include on the Collage:

Ideas for things to include in the Collage will occur to you and the children, but it might be helpful to you right here to have a list of things to start with.

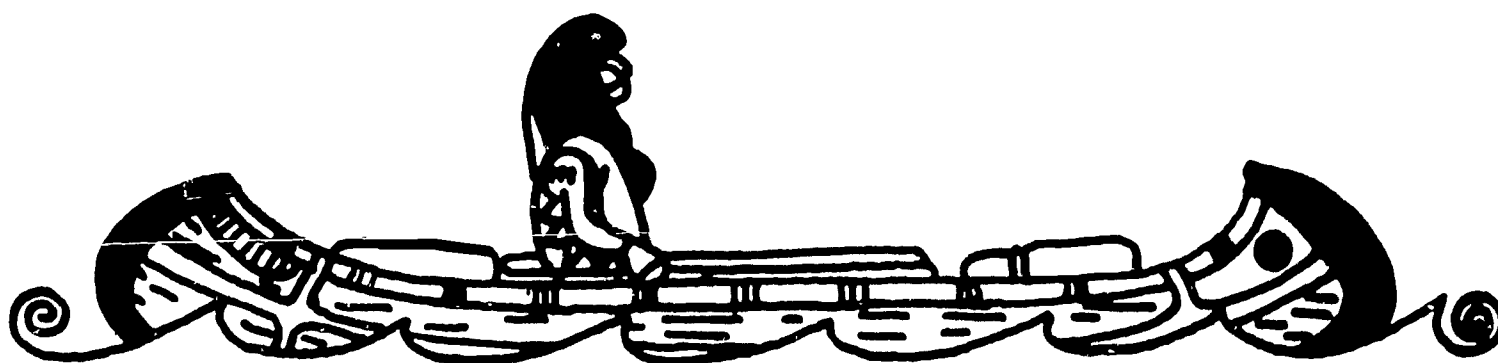
- Paddle's own path with place names, distance traveled, length of time underway, season of the year, etc.
- American State outlines and Canadian Provinces.
- location of your school relative to the Lakes.
- topographic features such as forest, plains, mountains, etc.
- other waterways
- lore associated with various places.
- children's own drawings (small cards) of adventures, animals, places.
- areas where different people lived and traveled: Indian groups, voyageurs, French, English, etc. Dates should accompany these.
- objects can be attached: ore samples, grain, trinkets, leaves, shells, arrow heads, cars, boats, etc.
- people and places that are particularly meaningful to the children: where relatives live, vacation spots, famous men, etc.
- journeys the children have taken.
- routes of the explorers with dates.
- shipwreck sites with dates and other statistics.
- Coast Guard stations and lighthouses.
- cities and landmarks
- locks (see St. Lawrence Seaway pamphlet)
- animals and sea life
- lake depths
- pollution indices (see McKee page 9)

* * * * *

From the Pamphlet Pouch:

Explanation of Symbols and Abbreviations for the charts.

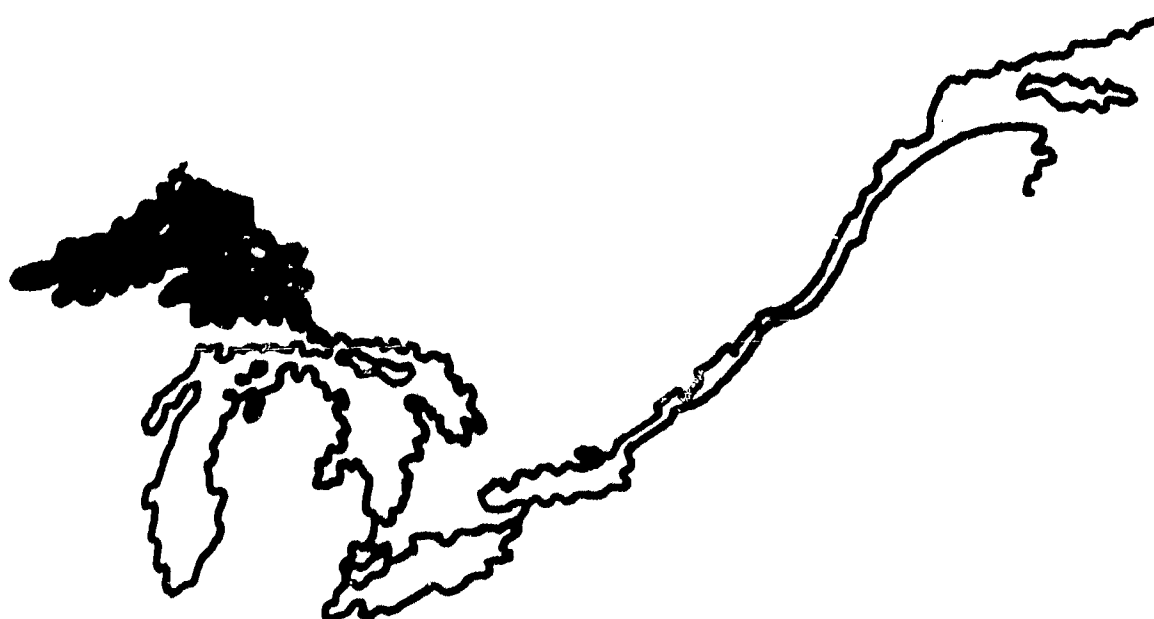
For the next Installment you will need a 16 mm projector again.



Installment Four

- 11. PADDLE FINDS ONE END OF LAKE SUPERIOR
- 12. A FISH STORY
- 13. ADrift AGAIN

Paddle reaches Duluth and begins heading East along the great shipping routes. The children examine samples of iron ore, copper, wheat, and coal and then see a film about the enormous ships that carry these things across the Lakes. Outside the school they find out just how big one of these ships is by forming its outline - 730 feet long.



LONG SHIPS

Things you'll need:

Chart of Lake Superior
Real samples of what the big freighters carry:
Hematite (iron ore)
Taconite pellets
Copper ore
Spring wheat
Bituminous coal
Film: Long Ships Passing - 27 min., color

You will need a 16 mm projector. (Hopefully, you've been able to keep the one you had the other day.) If possible, have it threaded in advance.

* * * * *

Gather the children and read Chapters 11, 12, 13 (Frames 11-13c)

Then pass out the ore samples, etc., for the children to handle. These are among the major items carried by the great bulk freighters.

Samples: The red ore is HEMATITE, the richest grade of ore containing 70% iron.

The TACONITE pellets are "manufactured" iron ore made from a taconite rock, which is crushed, pulverized, and magnetically separated into ore concentrate and waste. The concentrate is formed into pellets containing about 55% iron.

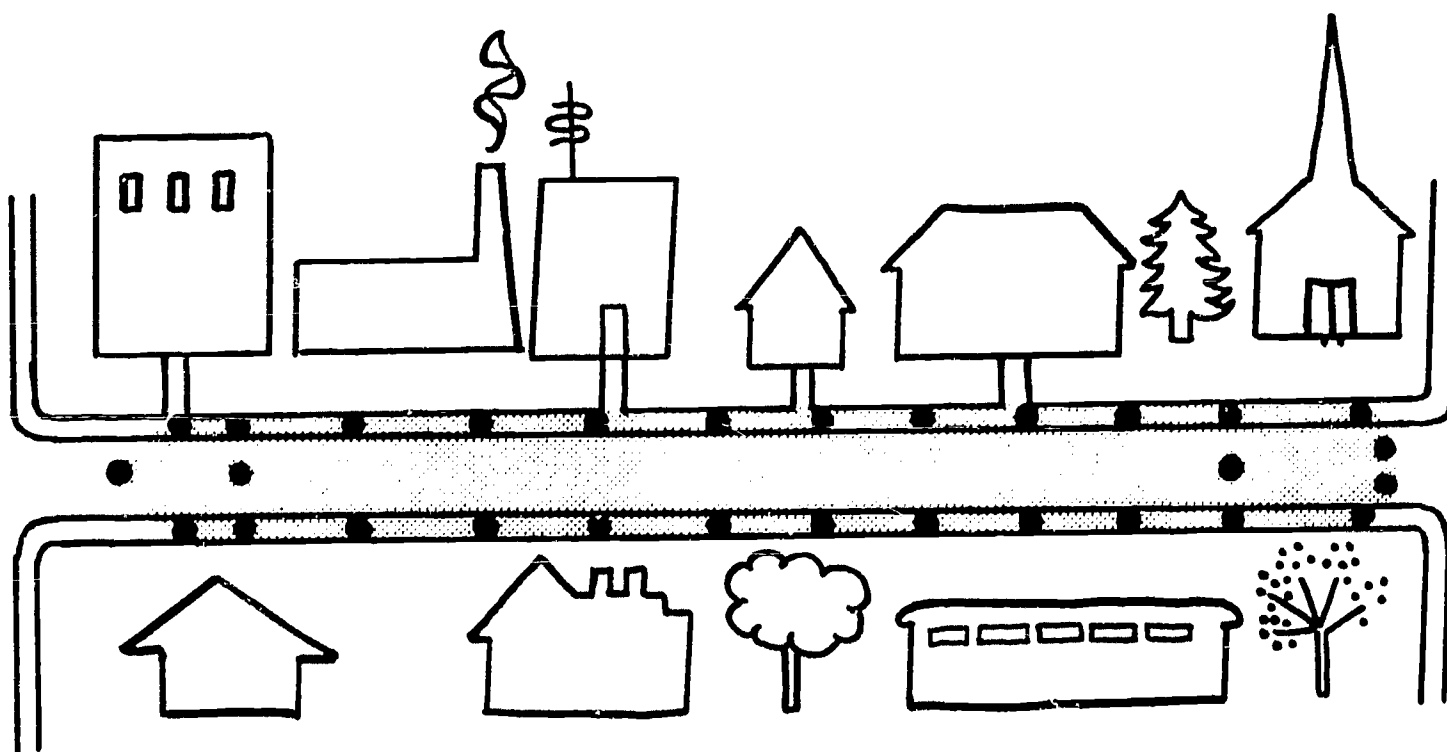
The COPPER ore comes from Calumet, Michigan, on the Keweenaw Peninsula. Copper is the oldest metal known to man. The Indians used it before the white man came.

The COAL is bituminous, the type used in steel production.

Show Long Ships Passing. This film presents a vivid portrayal of the bulk freighters, their cargo, and the men who work on them. Allow some time after the film to talk about it.

LONG SHIPS

Something that should be fun is to take the children outside to show them how enormous the Lake freighters are. They'll have an idea from the film, but this activity should really impress them. Have the children form the outline of a freighter out in the school yard (if you have one big enough) or in a nearby park or along the street. Make it 730 feet long and about 65 feet wide.



Doing this on a straight street should be fairly easy: the kids forming the sides can stand along both sidewalks and only a few will have to stand in the street for the bow and stern sections. Another teacher can "man" one end and watch out for traffic while you handle the other. Use some children to form two lines across the ship to mark off the center cargo hold from the fore and aft cabin areas.

When everyone is in position, have them all wave their hands - or better yet, have them wave flags that they have made in advance. If you can get a snapshot of this, we'd love to have a copy.

* * * * *

LONG SHIPS



The idea of all this is simply to make the great ships of the Lakes as real for the children as possible. We believe that the ships and the ore and the wheat will be remembered long after terms such as "natural resources," "transportation" or "trade."

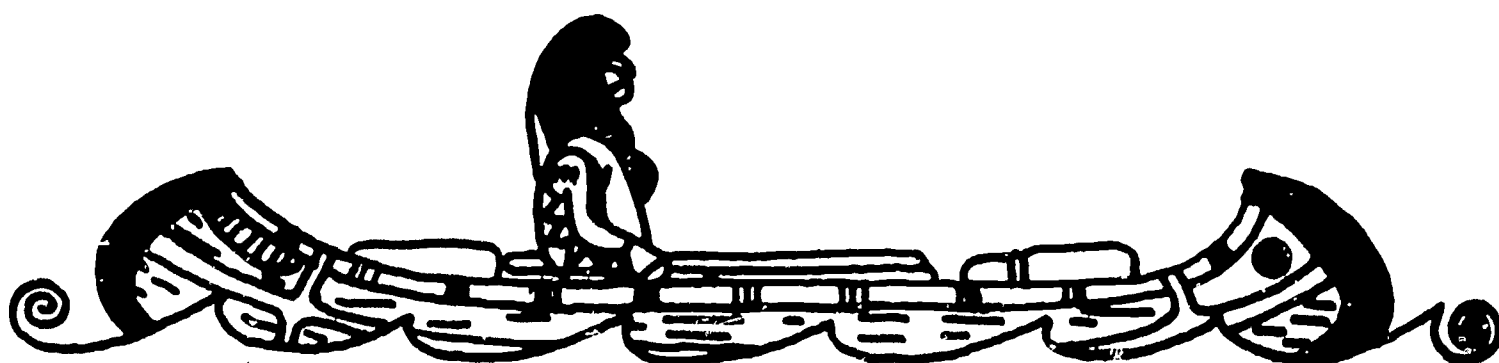
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Additions to the Collage:

- iron, wheat, coal and copper regions
- shipping lanes

From the Pamphlet Pouch:

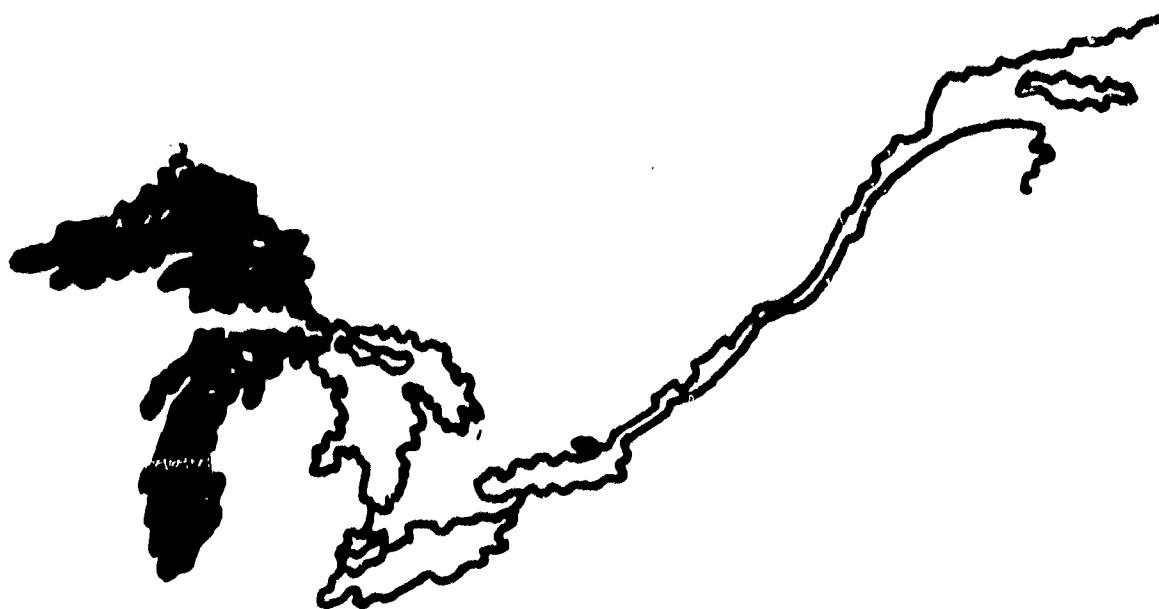
- Copper, the Oldest and the Newest Metal
- Algoma in the Sixties
- Great Lakes Ships



Installment Five

- 14. THE SHIPWRECK
- 15. DRYDOCK
- 16. BY DOG SLED TO THE SOO
- 17. NON-STOP DOWN LAKE MICHIGAN

Paddle witnesses a shipwreck and rescue using a breeches buoy. He is found, repaired, and given a long lift, first by dog sled to Sault Ste. Marie, then by freighter to Gary. The children assemble a breeches buoy, they use a "mileage wheel" to calculate how far Paddle has travelled, and they learn how a lock works through operating a model.



BREECHES BUOY

Things you'll need:

The model breeches buoy consisting of
a buoy with breeches attached
1 large wooden block with shackle
2 small blocks with rope tails
3/8" rope, 24 feet long
1/4" rope, 48 feet long
Lock model
Mileage wheel (map measurer)

Note: This installment will probably take two days.

* * * * *

Begin by reading Chapters 14, 15, 16 and 17 (Frames 14-17).

There are three elements in the story for the children to explore further: how a breeches buoy works, how far Paddle has actually traveled, and how a lock works. The general plan is to set up the three activities and to allow the children to work through them until every child has had a chance to do each one.

While this is going on, play the Voyageurs record. As children complete the activities have them turn to the collage or regular classwork.

Your role in all this will be to establish the activities, to circulate among groups giving assistance where it is needed, and to regulate the flow of children from one activity to another. If it seems too much to have all three things going on at once, begin with two and add the third later.

Assembling and operating the Breeches Buoy: (groups of 4-6 children) Give the group all parts of the breeches buoy and let them try to assemble it correctly. They can study the book illustrations of course. You'll have to judge how much help they will need from you; give them only what they need.

BREECHES BUOY

One thing they will need is help in finding a suitable place to suspend the buoy. There is rope enough to span 20 feet. The ropes can be attached to such places as pipes, window latches, flag pole mount, table legs, door handles and the backs of chairs (if they are bolted or held down).

Unless things get really bogged down, don't help the children figure out how it goes. Let them struggle for a while. They'll learn a lot from it. Once they have rigged the buoy, let them have a good go at it, "rescueing" things such as books and shoes, etc.

Before the next group tries it, make sure the children have disassembled the buoy.

Computing the length of Paddle's journey: (Children in pairs or one at a time) The crew at the Coast Guard station estimated that Paddle had gone between 700 and 2000 miles depending on the winds he'd encountered.

The children can compute how far their Paddle has traveled by using a little device we call the "mileage wheel." Before they can do this, however, Paddle's path will have to be completed as far as Whitefish Bay lighthouse. It should look something like picture 13c.

How the wheel works: As the wheel is rolled over a surface, the pointer turns, indicating on the outer scale (either side) one statute mile for every inch traveled. To compute the length of Paddle's journey, set the pointer to zero, and roll the wheel along his path following all the turns and curves.

Determine from the scale how many miles (inches) the wheel has gone and multiply by 15, since the scale of the collage is 15 miles to the inch. Thus if the wheel shows 30, Paddle has traveled 450 miles. But, WATCH IT!, the pointer may be on its second or third time around. Since one revolution is 39 miles, Paddle may have traveled:

$$\begin{aligned} 39 + 30 &= 69 \text{ inches} \times 15 = 1035 \text{ miles} \\ 39 + 39 + 30 &= 108 \text{ inches} \times 15 = 1620 \text{ miles} \end{aligned}$$

BREECHES BUOY



Read the correct scale. As the wheel rolls along, the pointer on one side is adding miles while on the other it is subtracting.

Finally, when the children are tracing Paddle's path, they need to make sure the wheel is rolling "forward," or adding, at all times - even around hairpin turns or reversals of the path. If the wheel gets turned around, mileage will be subtracted.

In words it's complicated, but in reality it isn't. There are four rules:

1. Start with the pointer at zero.
2. Keep track of the revolutions.
3. Read the scale that's adding.
4. Keep the wheel moving "forward."

And, if you forget every one, a few simple mistakes will straighten you and/or the children out in no time.

Back to the children. Let them compare their computations. Gross differences will probably be due to errors in technique or calculation. But those small differences among the people that did it the right way..... What about them? Who is correct? What is the "real" distance? Is there one? What's the best "estimate" of the true distance?

Yes - problems one wouldn't have expected to encounter in such an innocent story.

Operating the Lock Model: The third activity consists in operating the lock model. One or two children can do it at a time, each having a chance to "lock through" in both directions.

The model was designed to clarify how a lock really works and what is happening - something which usually remains as one of the great mysteries of social studies. Most of us were taught to mutter something about boats going up or down "steps of water" - but how many of us know what is really going on?

BREECHES BUOY



The Model: Locks are not filled by pumping. Water flows by gravity through valves from the upper lake into the lock. When the lock is emptied, lower valves are opened and water drains into the lower lake. The model permits the children to operate both the gates and the valves. The gates have to be firmly shut for the lock to operate. Then it can be "filled" or "drained" by opening and closing the proper valves. Both valves "open" means that water is simply running through the lock and its level will not change.

There are two states that the model can be in that would not occur in reality:

- upper gate open, water level low
- both gates open

See whether the children view these as "unacceptable." The serious operator has unquestionably goofed if he gets the lock into one of these conditions.

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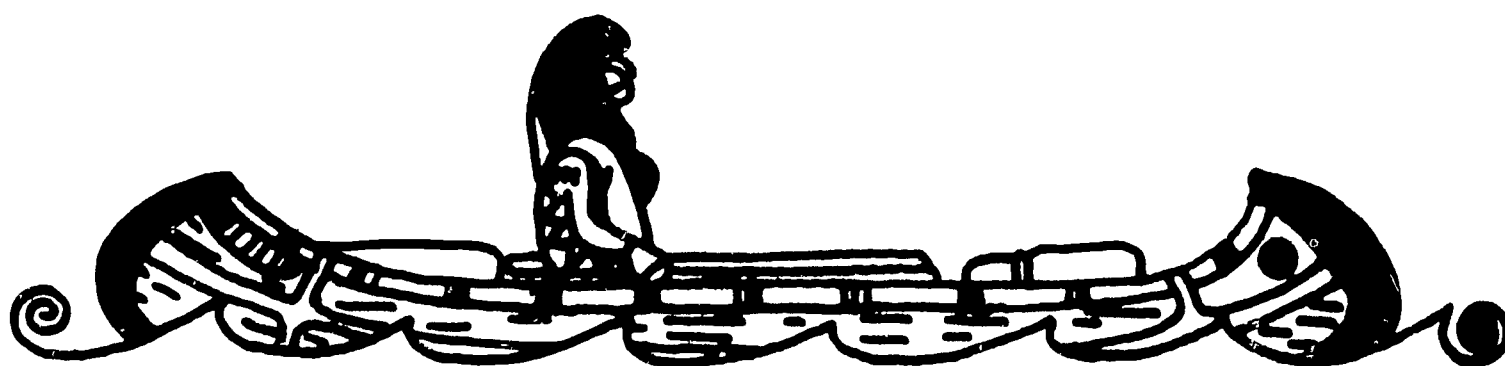
Additions to the Collage:

- shipwreck locations with dates and other statistics (see McKee 206-217 and the nautical charts)
- Coast Guard Stations and lighthouses
- other locks (see the St. Lawrence Seaway pamphlets)
- Paddle's overland route to the Soo, then on to Gary
- Paddle adventure cards

From the Pamphlet Pouch:

U.S. Coast Guard breeches buoy instructions
Photographs: Whitefish Bay lighthouse and man in a breeches buoy

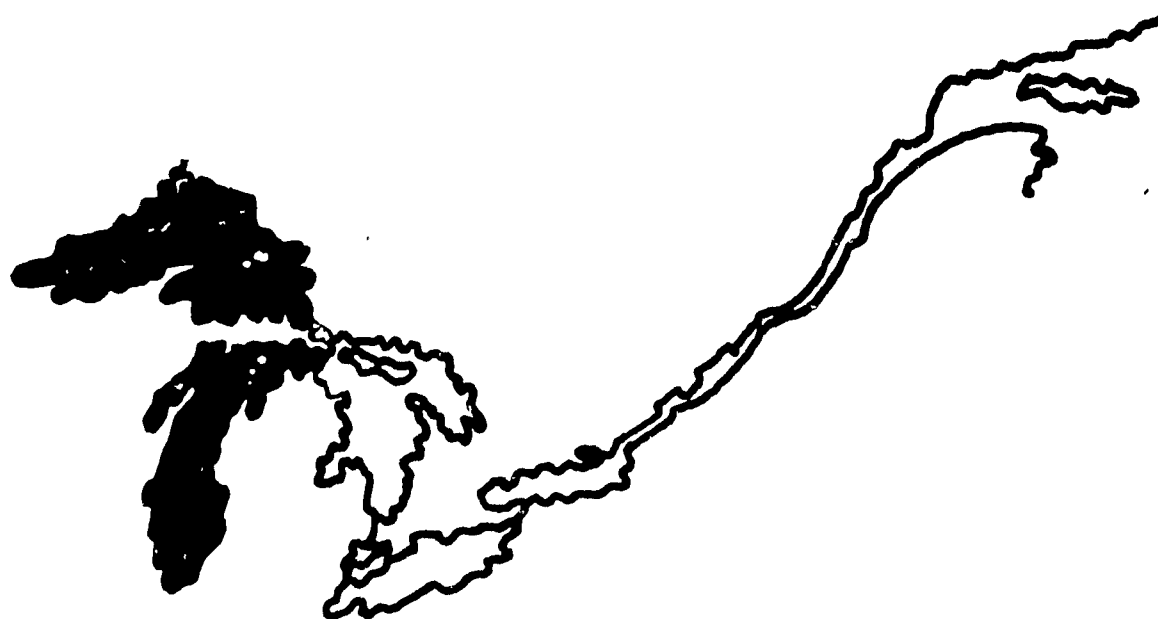
You'll need a record player for the next Installment



Installment Six

A SPECIAL INSTALLMENT

in which the children listen to a conversation
with Captain H. C. Inches, for 30 years Master
of Ships on the Great Lakes.



Things you'll need:

Record: A Conversation with Captain Inches, 33 rpm
Filmstrip: A Conversation with H. C. Inches.

You will need a record player.

* * * * *

At about this point, we thought it would be fun for the children to meet a real Great Lakes captain. We therefore recorded a conversation we had with Captain H. C. Inches, 85, captain on the Great Lakes for over 30 years and now Director of the Marine Museum at Vermilion, Ohio.

The record contains portions of that conversation, slightly edited and arranged. The filmstrip shows the Captain, his ships, the Museum, and some old-time ships.

The presence of Captain Inches in the classroom is a testimony to all of the people in whose lives the Lakes can be heard.

The filmstrip is best shown after the children have listened to the man.

The entire record takes 25 minutes and may well prove too long for one "listening." If so, play one side at a time. After listening, talk with the children about the Captain. What do they think about him and what he said?

Here is how the record is arranged in terms of the questions we asked.

SIDE 1 (13 minutes)

- introduction
- how he became a captain
- how long he had been a sailor

- his first Captaincy
- his ships
- how he became Captain of the "Frank Armstrong"
- size of the "Armstrong"
- the meaning of "Master of a ship"
- the worst time of year

SIDE 2 (12 minutes)

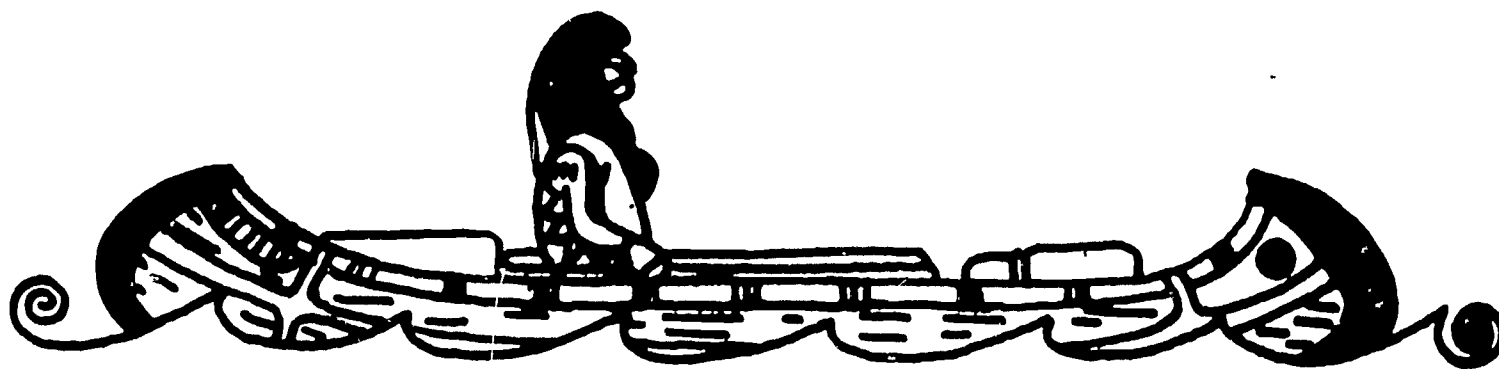
- ice
- the most hazardous Lake
- comparing wooden and steel boats
- what he did during the winters
- how he became Director of the Museum
- the story of the great race between the "Tashmoo" and the "City of Erie"
- something unexpected

* * * * *

A letter to Captain Inches. He would probably be delighted.

Additions to the Collage:

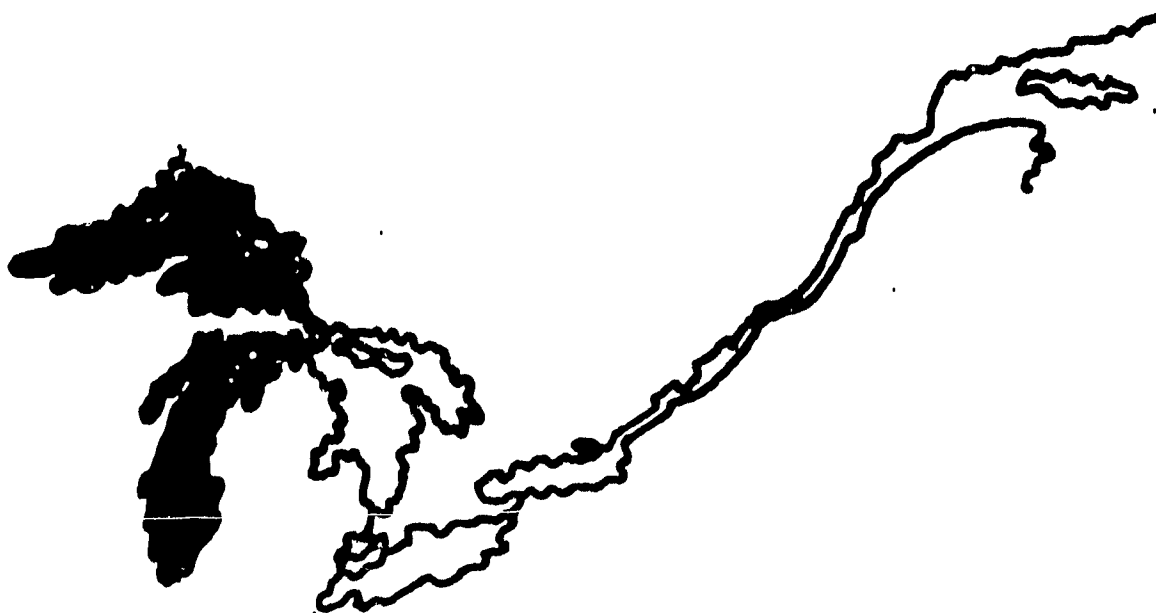
- Vermilion, Ohio
- smoke stacks of the shipping lines
- "Tashmoo" and "City of Erie" race



Installment Seven

- 18. PADDLE RETURNS TO THE NORTH
- 19. FOREST FIRE

Again and again Paddle is stranded on the beach among heaps of castaways as he is slowly carried northward through Lake Michigan. The children examine some things cast up on other shores, whose journeys they try to imagine and write about.



Things you'll need:

The castaways - an assortment of junk
picked up along beaches in New England.

* * * * *

A feather, a sandal, a grain of sand...a wooden slat...a bottle...
Each has a story of what it is, of what it once was, of the places
it has been, how it was made, the people it's known, the things it
has seen. Some stories reach back to the world's beginning; some
began yesterday in the "five and dime." Some objects reveal much
of themselves and others say little. None of them tell everything,
so their journeys can only be imagined.

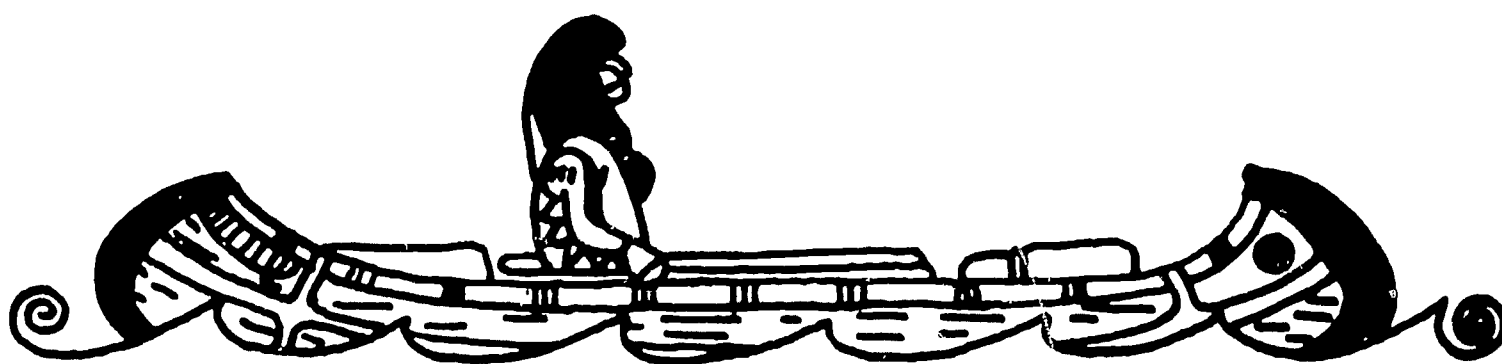
Read Chapters 18 and 19 (Frames 18, 18c and 19).

Then spread the cast-away items out on the floor and gather the
class around to see them, to pick them up, and talk about them.
Put Paddle among them, too, and talk with the children about the
idea that each thing there is on a journey of its own.

Finally, have everyone write a story for one of the objects, telling
of its journey and how it came to be cast up on a shore.

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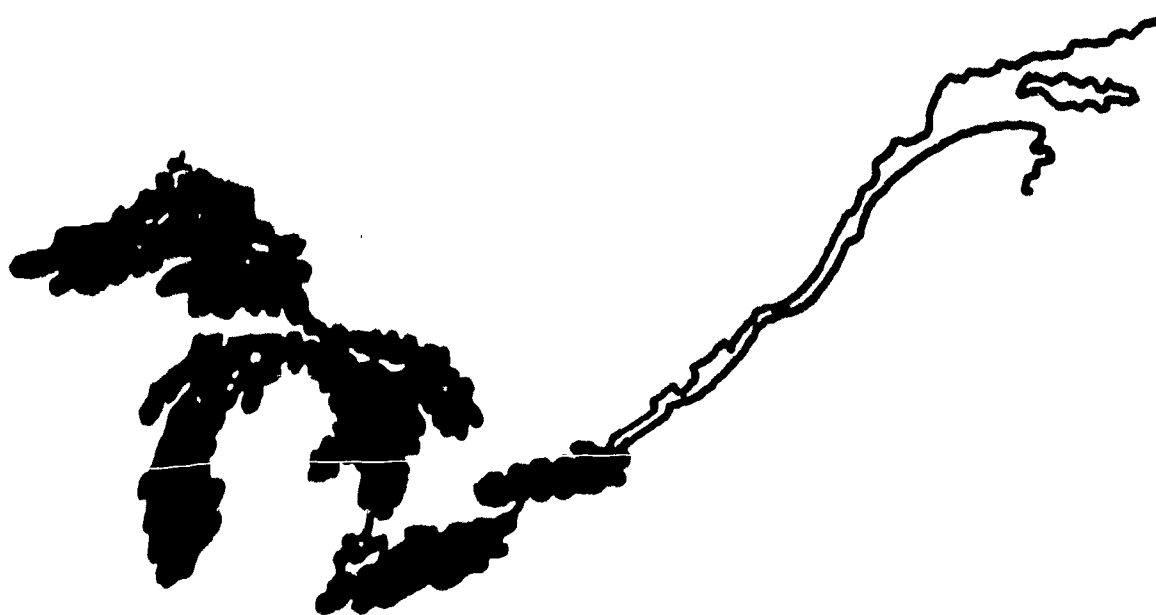
The idea is to remind the children that items found on beaches are
no more "just there" than they are.



Installment Eight

- 20. THROUGH LAKE HURON
- 21. PADDLE REACHES LAKE ERIE
- 22. PADDLE TAKES A GREAT FALL
- 23. LAKE ONTARIO -- AT LAST

Paddle skitters across the ice on Lake Huron, and is found by a little girl. A museum man offers to buy him from her father, who says "No" and sends Paddle on into Lake Erie. Paddle meets many more people who decide to help him on his way rather than keep him. Through role-playing, the children recreate these situations to understand why the people did this.



Paddle has met a number of people on his journey so far - most recently Mate Maloney, Pierre, and Bill, and before that the French Canadian lumberjack who rescued him at the sawmill.

Now Paddle encounters a young girl and her father and a museum man. On Lake Erie, "Steel workers, mechanics, engineers, sailors, all kept him a while and sent him on," and later, "... someone took him to Toronto, someone else to Kingston and through the Thousand Islands."

The father sent Paddle on because "Somewhere, someone who had faith in currents, in winds, and also in people put thought and careful work into this carving. And I'll not be the one to stop his Paddle-to-the-Sea."

What did he mean by that? And the others: what were their reasons for sending Paddle on?

These questions are posed to the children; by acting out various situations, they try to answer them.

* * * * *

Read Chapters 20, 21, 22, and 23 (Frames 20-23) and allow for general discussion. Then raise the questions we just mentioned; but do not get into a full discussion of them.

Get the children to think about them and explain that they will try to find the answer(s) by acting out some of the situations in which people had to make a choice about Paddle.

Let the children begin with the situations described in the book, and then go on to invent new ones involving other characters, places and circumstances. Make sure they understand, though, that each situation has to have an essential tension, or conflict of interest between the characters, to reveal values and choices.

The museum man situation is ready-made. Three children can play "father," "museum man" and "daughter," enacting the scene

in which the museum man offers to buy Paddle. The two main roles are clear, but the daughter can be played in various ways, each with its own flavor:

"Whatever Daddy says is all right with me."

"I don't care what either of you say; I want to keep it."

"Oh, Daddy, sell it to him and then give me the money."

Two or three "casts" can come up to enact this scene. In general, each will offer an interesting variation. The father's comment about faith in currents and winds and people can, of course, be incorporated. Initially, you may have to help the characters to establish their "positions."

The lumberjack made a decision, too. First he was going to take Paddle home to his son, Henri. Then, when he read Paddle's message, he changed his mind. Two children can enact the talk the lumberjack must have had with himself: one "pro-Henri" and one "anti-Henri." If the situation "takes," let a couple of pairs of children try it.

Other situations are only alluded to in the story. We know the places where Paddle was picked up and the kinds of people who found him. From this information, let the children create for themselves situations that might have taken place. Small groups can huddle to plan their skits and then present them.

The key is to find a good reason for not sending Paddle on and to build a situation around that. If the children have trouble thinking of situations, these can be used to get them going:

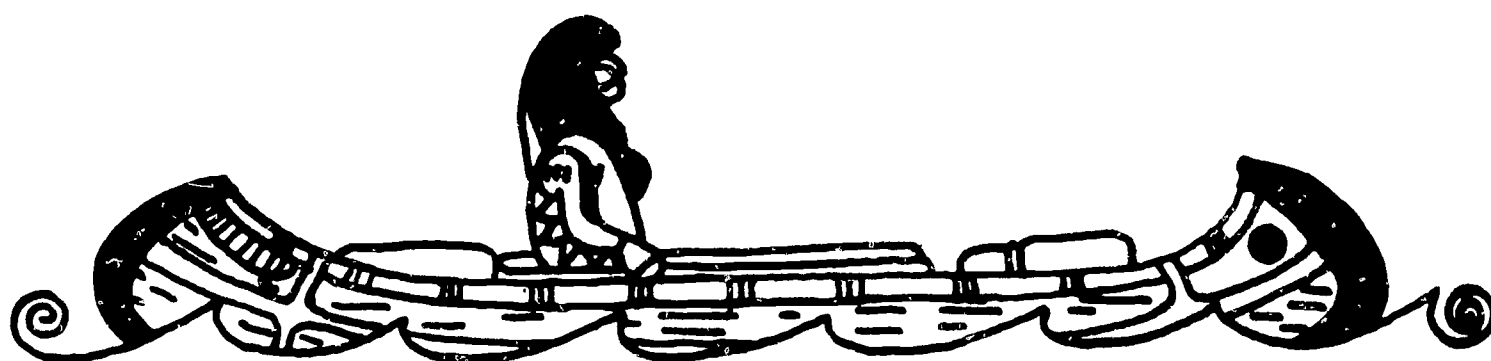
- Port Colborne. A Sailor finds Paddle and plans to put him back, but a friend says it would be better to keep Paddle because he'll never make it through the Welland canal locks, or survive Niagara Falls.
- A railroad engineer in Cleveland debates with himself whether to take Paddle to the ocean by train or let him keep going by water.

- Ashtabula. Four members of an Indian Club find Paddle. The boy who found him wants to show him to his father and then send him on. Another claims Paddle belongs to the club because a member found him. The third boy says he should give him to the club because it is about Indians. A fourth boy says he only belongs to whoever made him and that he should be put back right away.
- A mechanic in Erie who carves ships as a hobby admires Paddle and is tempted to keep him with his collection of fine carvings.

When the skits are over, round up the thinking on the original question. What was it about Paddle and the people he met that kept him on his journey?

* * * * *

The idea of this lesson is to make the children see, with respect to Paddle, that people made choices which reflected what they believed in, and we hope the children will think about what they themselves value.



Installment Nine

24. ALONG THE GREAT RIVER

Paddle reaches Montreal, historic gateway to the trading centers of the Northwest. The children divide up into Chippewas, Hurons, and Frenchmen and barter with each other over beads and beavers, tomahawks and trade cloth, and cooking pots and corn.



BEADS AND BEAVERS

Things you'll need:

Birchbark canoe with (CHIPPEWAS)
6 eagle wing feathers (to wear)
* moccasins
10 miniature beaver pelts
* porcupine-quill box
Chippewa club

* Birchbark basket with (HURONS)
6 bear claw necklaces (to wear)
5 miniature beaver pelts
* sunflower seeds
wampum necklace
* Indian corn

* Trade cloth bundle with (FRENCH)
6 sashes (to wear)
ribbons
* mirror
* seed beads
* brass beads on a ribbon
iron tomahawk head
miniature iron cooking pot
+ mocotaugen

Roll cards (FRENCHMEN, HURONS, and CHIPPEWAS)
Piece of real beaver pelt

* These items are either real, or authentic reproductions. The rest are models or replicas. Be sure the children understand this.

+ This is the Indian name for the crooked knife used earlier.

* * * * *

Before Paddle, many canoes had come and gone from Montreal. They brought bundles of fur and carried off beads, mirrors, guns, and brandy. And after each time, more Europeans were adorned with beaver and more Indians were decorated with Venetian glass beads than had been before. And this kept happening until beavers and Indians and explored places were gone.

Read Chapter 24 (Frames 24 and 24a).

Hold on Frame 24a, and tell the class about some of the items over the mantle. You don't have to go into detail: see what interests the children. Make the point, however, that before the old lady got these items they were probably traded many times, most recently, of course for money.

The things the old lady has collected make a collage of the Great Lakes much like the one the children have been making. In their variety, the objects stand for the clutter of people and events that have gone before.

Looking from left to right:

Canoe paddle (far left, top to bottom)

Ball-headed club (next to the paddle)

Rapier (across Moose's antlers)

Tomahawk (above the club)

Rifle and powder horn (under the Moose's head)

Beaded pouch (between the powder horn and feathers) - bead-work and fringed leather, probably made by the Iroquois

Eagle feathers

Birchbark basket - decorated with Huron designs

Ceremonial pipe (above the feathers) - the Plains Indians carved the bowl out of red stone

Beaded Chippewa mocassin (above the pipe)

Knife in porcupine-quill sheath - quills were dyed, flattened and stitched into intricate designs

Bear trap

Arrows in quiver (behind bear trap and another powder horn)

Iroquois False Face mask - worn during Iroquois curing ceremonies. The style shown is called "Door-Keeper", a leader of the False Face Society. Originally the mask was carved into a living tree, so it would be alive, having captured the "Spirit" inside of the tree. The eyes were metal and the "hair" of horse-hair. The masks were usually painted red and black.

BEADS AND BEAVERS



Turtle-shell rattle (under the mask) - cherry pits inside
make the rattling noise; used by False Face dancers
Plains Indian spear (behind mask, quiver, and knife) - with
a metal point held on by thongs and a feather decoration.

The bartering sessions:

Take half of the class and divide it into three groups - Chippewa Indians, Huron Indians, and Frenchmen. Give each group its possessions and appropriate role cards, and allow them time to look these things over.

Dress everybody - eagle feathers for the Chippewa, bear claw necklaces for the Hurons, and sashes for the French.

Have one member of each group read his role card aloud so all positions are clear.

Explain the ground rules and let the trading begin.

General ground rules: The Chippewas and the French are too widely separated to trade with each other, so both groups must trade with the Hurons who live between them. The Hurons should trade first with the French and then with the Chippewas, after which they can go back and forth. Of course each group should try to make the best deals it can.

When they have finished, have the groups note what they wound up with. Ask them how they feel about the trades they made. Are they satisfied? Could they have done better?

Then return all the items, and let them try it again. How did they fare this time?

Now let the other half of the class have two bartering sessions. They will already know how to proceed and will probably drive harder bargains.

Have the class as a whole look at the record of these transactions and talk about what happened.

BEADS AND BEAVERS



What changes took place between first and second bartering sessions or across all four?

Why do people trade things anyway? Why don't they do it much anymore - or do them?

What are the things worth? To the children - to the Indians, the French - in beavers, in dollars? (In this connection, refer to the Standard of Trade chart at the end of the installment for rough equivalents between goods, beavers and present-day dollars.)

Were the Indians treated fairly, and what does that mean, anyway?

What risks were there for the French?

How is the worth of a thing determined?

What is a dollar worth? What is a person worth? What is a dream worth?

* * * * *

The Idea, quite obviously, is not to recreate a specific event in history, but rather to characterize a relationship in which the children can glimpse the people who went before, how they lived, and what they valued.

* * * * *

McKee: see Chapter 8, "Long Live Castor".

Minnesota Historical Society pamphlet that goes with the record "The Voyageurs and their Songs".

From the Pamphlet Pouch:

Leaflet: Iroquoian and Algonkin Wampum

Leaflet: The Ojibwa or Chippewa Indians

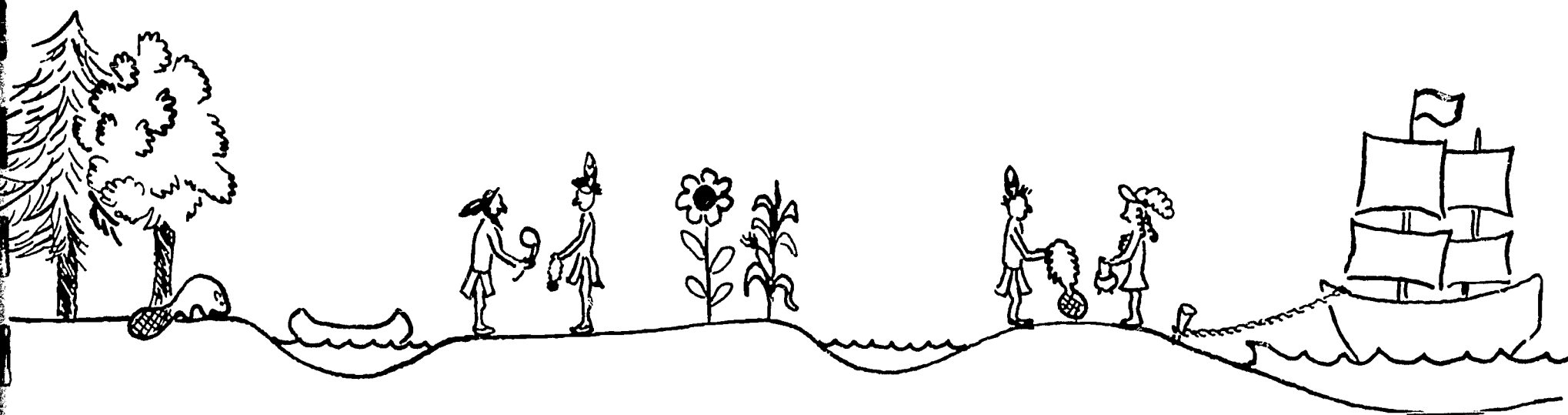
BEADS AND BEAVERS

Standard of Trade: We were unable to find out what value (in terms of beaver pelts) the French placed on all of the trade items used in this lesson. The following list, therefore, is a composite: the items marked (F) are French valuations, dated 1670, while the others are English valuations from the Hudson's Bay Company's Standard of Trade of 1748.

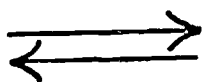
For interest only, we have included today's prices for comparable items. Too many factors - production techniques, materials, supply and demand, monetary systems, etc. - have changed for these to be used as anything more than indicators of relative value.

Raw beaver skins are worth about \$12-\$20 today.

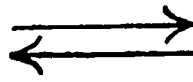
Trade Items	Value in Beavers	Amount	Today's Prices
<u>From the lesson:</u>			
trade cloth (F)	2	1 yd	17.50
mirrors, small	1	2	.25
ribbon	1	2 yd	.60
brass beads	2	1 lb	6.00
colored seed beads	1-1/4	1 lb	2.25
tomahawk/pipe	1	2	11.00
kettle	1	1 lb	3.00
mocotaugen	1	2	3.00
<u>Other things:</u>			
gun (F)	5	1	40.00
brandy (F)	1	4/5 qt	6.00
vermilion (pigment)	1	1-1/2 oz	.50
coat buttons	1	12 doz	18.00
red feathers	1	2	.20
fish hooks	1	20	.50
woolen gloves	1	1 pr	2.25
needles	1	12	1.20
plain silver rings	1	6	6.00
spoons	1	4	1.00
stockings	2	1 pr	1.00
brass thimbles	1	6	1.20



CHIPPEWA



HURON



FRENCH

-want-

colored beads
mirrors
sunflower seeds
kettles
cloth
ribbon
brass beads
corn
wampum
tomahawk pipe
mocotaugen

-want-

cloth
ribbon
colored beads
brass beads
tomahawk pipe
kettles
mirrors

-want-

beavers
birch bark container
canoe
moccasins
club
quill box

-have-

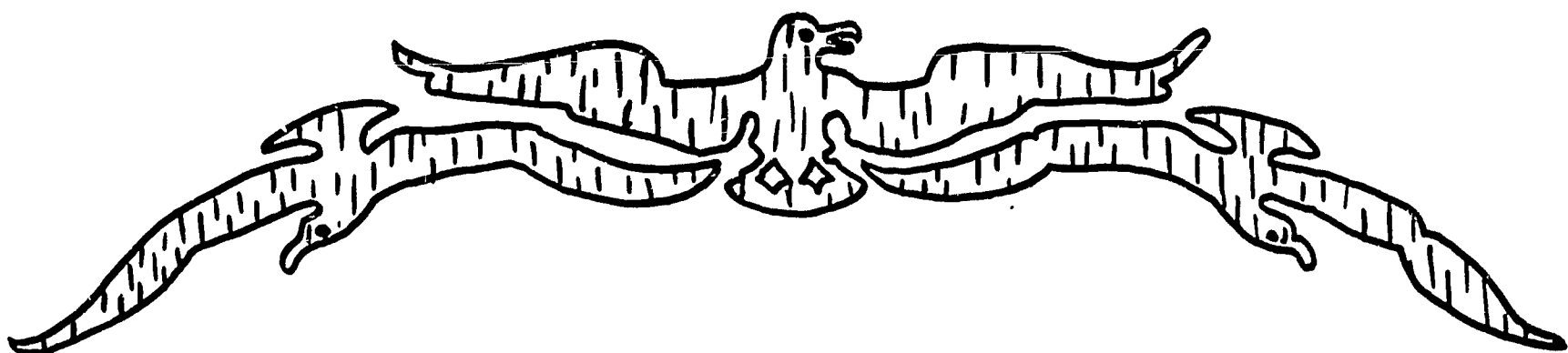
beaver
canoes
club
quill box
moccasins

-have-

corn
sunflower seeds
birch bark container
wampum
beaver

-have-

cloth
ribbon
mirrors
brass beads
colored beads
kettle
tomahawk pipe
mocotaugen



FRENCHMEN

Now that our ship has arrived safely from France, we can travel to the land of the Huron Indians, who will trade beaver skins for the cargo of our ship.

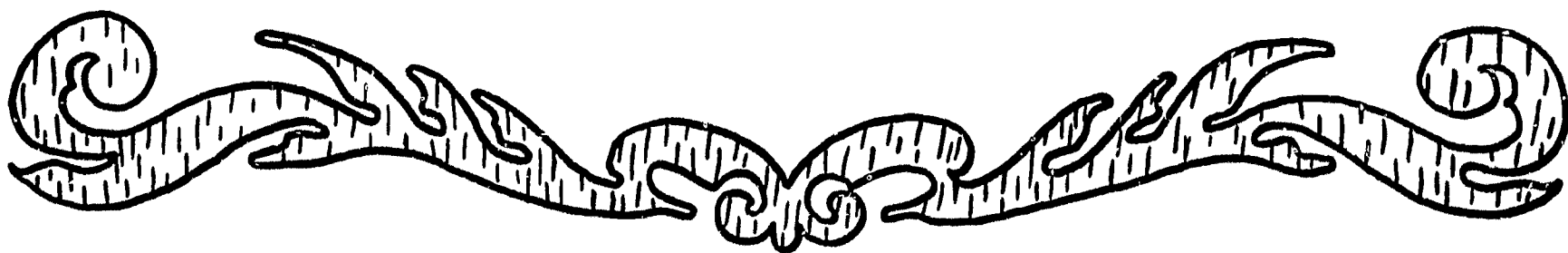
Because all the beavers in Europe have been trapped, there is a great demand for beaver skins from Canada. When we left France, all the fashionable aristocrats wanted beaver hats and fur trimming on their clothes.

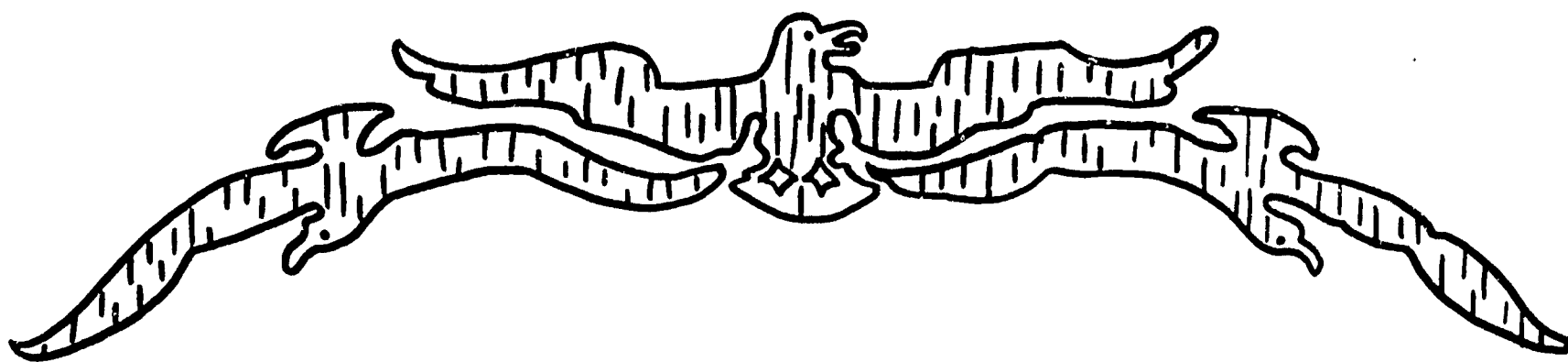
In this new land the Indians can trap more beaver than our ships can hold.

We have brought many colorful things to trade for beaver skins. There are now so many guilds and factories in Europe that we were able to purchase a large supply of trade items for very little money. Last time Indian women asked us to bring more ribbon and colored beads to replace porcupine quills which they use to decorate their deerskin clothing. These beads are very lightweight, and we can get more than enough from the glassmakers in Venice.

This time we should take home some baskets and other curios made by the Indians.

We will need a canoe so we won't have to carry the furs on our backs like the last time. The canoe trip will be dangerous, of course; but the return to France with a ship load of beaver skins will make us very rich. That is, if everything goes well.





HURONS

The first time that the French traders came to our village we were frightened. Their ship was so large that we thought it belonged to a Spirit. But the Frenchmen brought us many good things: a metal knife, a kettle, and many tiny colored beads. And all they wanted in exchange was a few beaver pelts. We want the Frenchmen to come back.

Their ship will hold more men than we have warriors. The Frenchmen told us that there are more people in France than there are stars in the sky - and they all want beaver to wear on their heads.

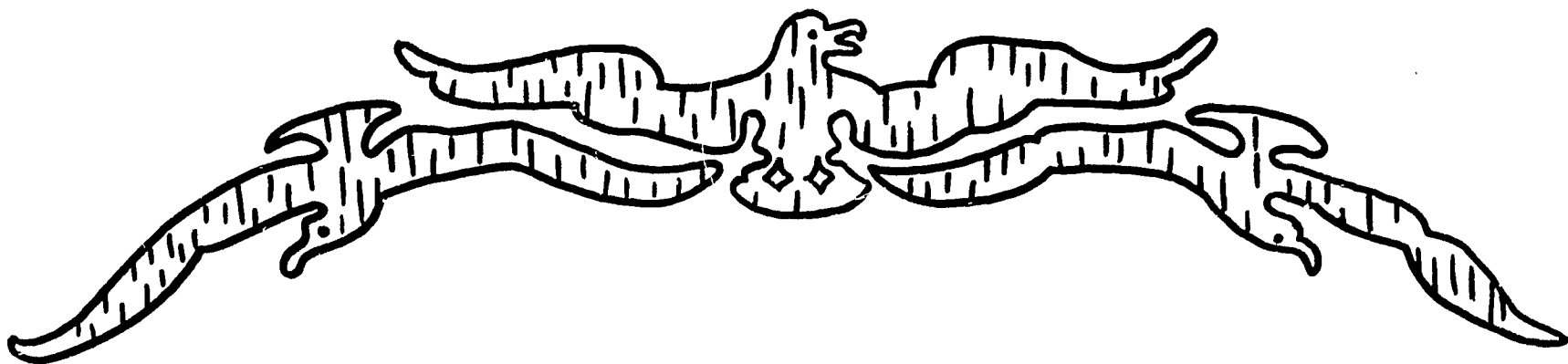
It is good that our Chippewa brothers will come soon with many beaver skins in their canoes. Beaver no longer come to our traps.

We can get many strings of wampum from our brothers who live near the ocean. We have so much wampum that maybe we can trade some to the Chippewa for their beaver skins.

Our women have many baskets filled with corn and sunflower seeds to trade for still more beaver.

And if we do not get beaver skins from the Chippewa, the Frenchmen will not want to trade with us.





CHIPPEWAS

My Spirit Helper has served me well during the winter.
Many beaver have come to my traps.

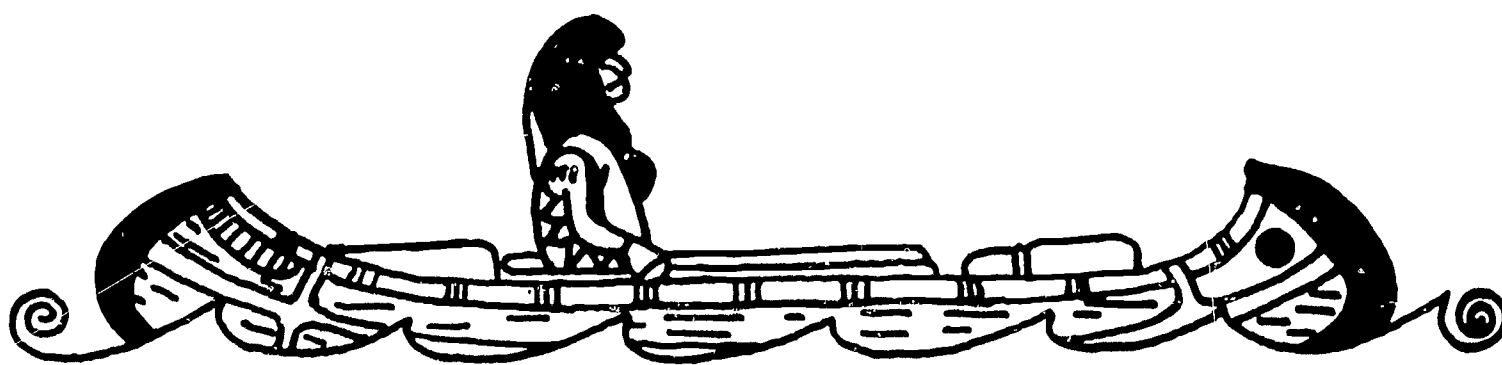
Now it is time to pack our canoes and travel to the land of the Huron. Because our women are busy scraping fur skins they do not have time to grow much corn. Our fields are small because we live in the forest. The Huron women grow large fields of corn and sunflowers.

Our brothers, the Huron, have good things which came from the French traders who want many beaver skins. Our woods are so full of beaver that it is easy for us to trap them. We do not understand how the Frenchmen could wear so many beaver.

Our life would be better if we had some of their metal tools; they do not break like our bone tools and stone axes. Our women also want many colored beads because they are easier to work with than porcupine quills, which need to be plucked, flattened and dyed before they can be sewn.

The Huron will trade many strings of wampum for our beaver skins. We need much wampum to pay the Medicine Man for training our young braves in the ways of the Spirits. A young brave's life will be good if he can become strong and powerful with the help of the Spirits.





Installment Ten

- 25. RIVERS IN THE SEA
- 26. PADDLE FINDS A NEW FRIEND
- 27. ON A WHARF

Paddle reaches the Sea. A young Indian learns that the canoe he carved more than four years ago got all the way to France. The story ends and there is time to talk and wonder about it. And plans are made too, for the children to launch voyagers of their own.



THE SEA AND BEYOND



The end of the story. A time for thinking back and planning ahead.

* * * * *

Read Chapters 25, 26, and 27 (Frames 25 through 27).

Now just have a talk about the story. Gather in the thoughts. There is a lot to recall and much to wonder about.

- How must the Indian boy have felt at the end?
- What did Holling mean when he wrote, "For four years he had been what he was supposed to be, a Paddle-to-the-Sea. And he had done what he was supposed to do. And so he showed no surprise, even at crossing the ocean."
- And Holling C. Holling - what was he saying?
- And all of you - what has the story meant to you?

Wouldn't you, too, like to launch something into the world? Why not? It would be a great thing to do. Maybe it would reach Africa! If you do, here are some pointers:

- Don't try to recreate Paddle. Make voyagers that are yours.
- Make them as durable as you can. Salt water corrodes metal very fast. Things like metal plates might fall off if their nails rust through. Paint can be protected with spar varnish.
- Color them brightly so they can be seen.
- Don't make them too large, because they will be a hazard to boats. The Coast Guard recommends 12 inches or less.
- The message is very important. If people are to record things on your voyager, they need space. If you want them to contact you, include your name, the date of departure, grade, address, etc., and ask them to, "Please send a postcard telling me where you found my voyager, then put him back in the water so he can continue his journey." If your voyager has a sealed container on board you can include a fairly long message. Use plastic rather than glass.

THE SEA AND BEYOND



A Promise: If you do make voyagers and can't get them to a good place to begin their journeys, we will be happy to launch them for you. Just send them to the Children's Museum, and one way or another, with help from the Coast Guard, or a lobsterman, or a shipping line we'll launch them in the Atlantic.

* * * * *

Collage: Work on the collage can continue as long as there is interest. When it's finished, take the class on a "grand tour." Perhaps it could be displayed so others in the school can examine it and marvel at its complexity. We would certainly like to have a snapshot of it.

The Film, "Paddle-to-the-Sea," is available directly from National Film Board of Canada, 680 Fifth Ave., Suite 819, New York City, N.Y. 10019.

The Children's Museum will also have a print available specifically for users of this Box. This may be rented from our School Services Department. Contact us by mail, or phone (617)522-4802.

You may be able to get the film free from a Canadian consulate.

As mentioned earlier, the film differs from the book. Many details and certain adventures are omitted, while others are made more dramatic by spectacular sequences shot at water level. These differences are interesting in themselves and you will probably get into a lively discussion comparing the two statements, by two men, in two media.

BOOKS AND SUCH



The following books, films, records, and filmstrips are listed as further reference for each installment. An asterisk (*) denotes book of particular quality. (c) denotes books written especially for children.

INSTALLMENT ONE - DREAMS

Books

Nute, Grace Lee - Lake Superior - The American Lakes Series.
Bobbs-Merrill Co., N. Y., 1944.

INSTALLMENT TWO - LOGS

Books

Peterson, Roger Tory - Wildlife in Color. Houghton Mifflin
Co., Boston, Mass.

Rounds, Glen - Beaver Business - An Almanac. Prentice-Hall,
Inc., New Jersey.

Scholastic Magazine - Trees-the Renewable Resource. April
29, 1966.

* Singh and Longsberry - Gift of the Forest. McKay, Philadelphia.

Films

* An American Sawmill - Film Originals, P. O. Box 4072,
Boise, Idaho.

The Lumberman - Frith Films, 1816 No. Highland Ave., Holly-
wood, California.

Common Animals of the Wood - Encyclopedia Britannica Educ.
Corp., 425 No. Michigan Ave., Chicago, Ill. 60611.

BOOKS AND SUCH



- * Lumbering Era in Michigan History - Michigan Historical Commission, Lansing, 1956. Manual to accompany filmstrip, \$6 for set; manual alone, 25¢.

Records

- Sea Shanties and Loggers' Songs - Folkways Records and Service Corp., New York (FA 2019). Authentic songs sung by Sam Eskin.

INSTALLMENT THREE - COLLAGE

Books

- Bowen, Dana Thomas - Lore of the Lakes. Edwards Bros., Ann Arbor, 1940.
- Memories of the Lakes. Lakeside Printing Co., Cleveland, 1946.
- Shipwrecks of the Lakes. Lakeside Printing Co., Cleveland, 1952.
- Boyer, Dwight - Great Stories of the Great Lakes. Dodd, Mead & Co., 1966.
- c * Campbell, Marjorie W. - The Nor'Westers. St. Martin's Press, New York, 1956.
- * Hatcher, Harlan - Pictorial History of the Great Lakes. Crown Publishers, New York, 1963.
- Havighurst, Walter - The Great Lakes Reader. Macmillan Co., New York, 1966.
- c Judson, Clara I. - The St. Lawrence Seaway. Follett Publishing Co., New York.
- c * McNeer, May - The Canadian Story. Ariel Books, New York, 1958.

BOOKS AND SUCH

Film Strip

- * The History of Great Lakes Transportation - Michigan
Historical Commission, Lansing, 1957. Manual to
accompany filmstrip, \$6 for set; manual alone, 25¢).

INSTALLMENT FOUR - LONG SHIPS

Books

- c Cosgrave, John - America Sails the Seas. Houghton Mifflin
Co., Boston, Mass., 1962.
- c Elting, Mary - Ships at Work. Harvey House, Inc., New
York, 1963.
- c Wattenberg, Ben - Busy Waterways. John Day Co., New
York, 1964.

Films

- The Great Lakes Area - Men, Minerals and Machines -
McGraw-Hill Text Films, 327 W. 41st St., New York, 36.

INSTALLMENT FIVE - BREECHES BUOY

Books

- Judson, Clara I. - The Mighty Soo. Follett Publishing Co.,
New York, 1955.
- Quaife, Milo M. - Lake Michigan. The American Lakes
Series, Bobbs-Merrill Co., New York, 1944.

INSTALLMENT SIX - CAPT. INCHES

Review list from Installment Three

BOOKS AND SUCH

INSTALLMENT EIGHT - PEOPLE

Books

Siks, Geraldine - Creative Dramatics and Art for Children.
Harper & Bros., New York, 1958.

* Spolin, Viola - Improvisation for the Theater. Northwestern
University, Chicago, 1963.

INSTALLMENT NINE - BEADS AND BEAVERS

Books

c Averill, Esther - Cartier Sails the St. Lawrence. Harper &
Bros., New York, 1937.

c * Barclay - O Canada! Doubleday & Co., New York, 1964.

c Kjelgaard, Jim - The Explorations of Pere Marquette. Random
House, New York, 1951.

* Nute, Grace Lee - The Voyageurs. D. Appleton & Co., New
York, 1931.

* American Heritage Junior Library - Trappers and Mountain Men.
New York, 1961.

* National Geographic Magazine - Relics from the Rapids.
September 1963, pp 412-435.

Films

* Portage and Age of Beaver - National Film Board of Canada,
680 Fifth Avenue, New York.

French Explorers - Encyclopedia Britannica Educ. Corp., 425
No. Michigan Ave., Chicago, Ill. 60611.

BOOKS AND SUCH



Records

French Canadian Folk Songs - Folkways Records and Service Corp., New York (FW 6929). Sung by Alan Mills with guitar.

INSTALLMENT TEN - THE SEA AND BEYOND

Other books by Holling C. Holling:

c Pagoo

c Tree in the Trail

c Minn of the Mississippi

c The First Book of Indians



Holling C. Holling for a durable story.

And to all of you at the Museum:

Nancy Olson and Erma Hirschfeld for help and encouragement at the beginning when we were wondering whether it could be done.

Allan Conrad for many summer evenings carving models of "Paddle" in search of a certain smile.

Signe Hanson for the fine artwork and overall art supervision of the Teacher's Guide, and Bonnie Baskin, Emilia Pisani and Sue Schanck for special artwork.

Robert Walker, Allan Conrad and Ted Scatchard for craftsmanship in making everything from ring buoys to lock models, to ball-headed clubs.

Duncan Smith for designing the boxes themselves and for making wood behave like water in the lock model.

Sue Ann Wheeler for bibliographic research and for writing hundreds of letters and helping us with innumerable details.

Joan Lester for Indian research and the bartering lesson idea.

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Sue Phelps for the cover design.

Nancy Laverty for trying out some of the activities.

THANKS



We also thank you:

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U. S. Coast Guard, 1st District Office of Public Information,
Boston

Calumet & Hecla, Calumet, Michigan

Pickans, Mather & Co., Erie Mining Co., Hoyt Lakes,
Minnesota

Edward R. Bacon Grain Co., Boston

THANKS



Cannelton Coal, Cannelton, West Virginia

Hudson's Bay Company, Winnepeg, Canada

The Snow Goose, Ottawa, Canada

Special Advisors: Erica and David Kresse; Sarah and Claudia Bever

About the MATCH Box Project

The MATCH Box Project is concerned with how real objects together with other materials can be used to make teaching and learning in elementary schools more meaningful and fun.

For teaching and learning to occur there must be communication. Mostly we use words to communicate in the classroom. We try to do practically everything with them. But there are people for whom this is not the best way, and there are ideas and experiences and insights which words can only hint at or not convey at all. If we want to teach many things to many people, we must commit ourselves to using many ways.

MATCH Boxes are systems of materials and activities that communicate in a variety of ways. Built around specific topics, they contain objects of all sorts, films, pictures, games, recordings, projectors, supplies, and a pattern for using these things -- the Teacher's Guide.

Each MATCH Box is unique -- a probe into the realm of non-verbal learning. Since 1964 when the Project began, 16 of them in prototype form have been developed and tested in the schools.

First Generation - completed September 1965

Grouping Birds	K - 2
The City	1 - 3
The Algonquins	3, 4
Seeds	3, 4
A House of Ancient Greece	5, 6

Second Generation - completed September 1966

Houses	1 - 3
Animal Camouflage	2, 3
Netsilik Eskimos	3, 4
Musical Sounds and Shapes	3, 4
Rocks	5, 6
Japanese Family 1966	5, 6
Medieval People	5, 6

Third Generation - completed September 1967

Waterplay	Nursery - 2
Imagination Unlimited	3, 4
"Paddle-to-the-Sea"	4 - 6
The MATCH Box Press	5, 6